

New ICC Rates on Train Loads Not For Fertilizers

Traffic Experts See Ruling as Only "Foot In Door" Opportunity

WASHINGTON — After examination of the Interstate Commerce Commission's grant of a trainload rate on commodities shipped to a single consignee by a single consignor, plant food traffic experts here see little hope in this ruling for a broad extension of this seeming shift in ICC policy.

They say it may mean a foot in the door, but they are fearful that an attempt by bulk fertilizer material shippers to make this ruling stand up as a precedent in a re-

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Week-Old Strike At Atlas Powder Plant Settled

WILMINGTON, DEL.—The week-old strike at the Atlas Powder Company Atlas Point plant near here was ended Sept. 26 when members of Local 12,886, District 50, United Mine Workers voted to accept a company offer.

The offer accepted provides for an increase of 7¢ an hour in the base wage rate, which figures out to 8¢ an hour for all but a few of the 200 employees. The union voted for a one-year contract. The company had earlier offered a two-year contract with a similar wage boost for the second year.

Acceptance of the offer followed a bargaining session between the company representatives and a union committee. The session was arranged by Ralph Valtin of the U.S. Mediation and Conciliation Service.

Canadian Nitrogen Firm Appoints Sales Agent

NEW YORK—Harrisons and Crossfield (Canada) Ltd., has been named exclusive sales agent for the distribution of chemical fertilizers produced by Northwest Nitro-Chemicals, Ltd., it was announced Sept. 27 by J. Albert Woods, president. The company's \$22 million plant, now under construction at Medicine Hat, Alberta, Canada, is scheduled for completion in the fall of 1956. (See Croplife, Aug. 22, page 1.)

Products for distribution will include ammonium nitrate and two grades of ammonium phosphate fertilizer, with a total annual sales volume in excess of ten million dollars. Primary distribution will be in the agricultural areas of the prairie provinces of Canada and in the northwestern U.S.

Northwest Nitro-Chemicals, Ltd., is controlled by Commercial Solvents Corp. and the New British Dominion Oil Co., Ltd., of Alberta, Canada. The company will be operated under a long term management contract with Commercial Solvents Corp.

Ford, Bacon & Davis, Inc., is in charge of plant construction. Financing of the project was recently completed through Eastman, Dillon & Co., of New York.

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Agricultural Losses From Floods Expected to Reach \$5 Million in 3 States

By WALTER C. SMITH
Croplife Editorial Staff

NEW YORK—Total agricultural losses in Connecticut, Pennsylvania and New Jersey as a result of the August floods have been estimated at more than \$3.9 million, according to official reports issued by state departments of agriculture.

This figure is expected to be revised upward to almost \$5 million, since only Connecticut has reported final detailed statistics. Total losses of farm buildings, equipment, live-

stock, poultry, crops, new and old seedlings and land damage caused by erosion and deposits of silt and debris in this state were set at \$2,545,362.

Over-all farm losses in Pennsylvania reported to date amount to \$694,000. Gov. George M. Leader said total farm losses may exceed \$1 million, based on a preliminary survey of the 11 counties designated by U.S. Department of Agriculture as hurricane and flood emergency areas.

Total farm damage in New Jersey was not reported officially, but members of the department of agriculture staff, farmers, commercial agencies and extension workers cooperated in preparing an informal estimate of \$1 million in direct loss. Field corn and general crop losses were placed at \$700,000.

Crop damage was the largest single item in the over-all total for the three states. Losses were more than \$2.8 million. Connecticut re-

(Continued on page 21)

1 PPM Tolerance Given to Aramite

WASHINGTON — Effective Sept. 29, the Federal Food & Drug Administration granted a residual tolerance of one part per million to Aramite, insecticidal product manufactured by the Naugatuck Division of U. S. Rubber Co. at Naugatuck, Conn. The tolerance is to be effective when applied to 19 raw agricultural commodities. Excluded, however, are residual tolerances on forage crops and soybeans.

This action, first of its kind taken under the Miller Amendment to the FDA act, was the result of the finding of a five man advisory

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Iowa Company Adds to Fertilizer Production Capacity

ONAWA, IOWA—The Tiger Co., Onawa, Iowa, is engaged in a plant modification program which will give it added capacity in the manufacture of liquid fertilizer solutions. The company is adding an aqua ammonia converter, an ammonium phosphate cooker and other equipment in its reactor circuit.

The modifications are under the supervision of the J. C. Carlile Corp., Denver.

New Tulsa Firm Ready for Production

TULSA—The Remwood Chemical Co., which will formulate and market liquid plant foods and detergents, has completed its new building and is ready to start production.

Officers of the firm include Dr. Ronald E. Meyer, president and treasurer, and Harold S. Wood, vice president and secretary, both of Tulsa.

The firm also will distribute dry fertilizers. Liquid fertilizers will be marketed in two classes—one for commercial use and one for lawns and gardens.

Lion, Monsanto Merger Approved By Stockholders

The merger of Lion Oil Co. into Monsanto Chemical Co., as agreed upon by the directors of both corporations July 21 (Croplife, Aug. 1, page 1) was approved by Monsanto shareowners and Lion shareowners at meetings held in St. Louis and in El Dorado, Ark. recently.

A joint announcement concerning the vote of both shareowner groups was made by Edgar M. Queeny, board chairman, and Charles Allen Thomas, president, of Monsanto; and by T. H. Barton, chairman, and T. M. Martin, president, of Lion.

The merger became effective Sept. 30. A two thirds majority of the outstanding shares of both companies was required to approve the merger.

Basis of the merger is the exchange of 1½ shares of Monsanto \$2 par value common stock for each outstanding share of Lion stock.

Mr. Martin and Mr. Barton have become members of the Monsanto board.

Lion Oil Co. will be a division of Monsanto. Mr. Martin is to serve as president of the Lion division and, in addition, he has been elected a vice president of Monsanto by the Monsanto board.

Jeff Davis of El Dorado, vice president and general counsel of Lion, has been elected an assistant secretary of Monsanto, and E. W. Atkinson of El Dorado, vice president and treasurer of Lion, has been elected an assistant treasurer of Monsanto.

American Potash Institute Observes 20th Birthday

For a little more than twenty years the American Potash Institute, a unique organization supported by five U.S. producers of potash, has been doing an educational job throughout the country to promote greater use of this plant food element.

It was back in 1935 that the API began operations as a non-profit corporation under the laws of Delaware and this year, the organization has occasion to look back with satisfaction on twenty years of achievement.

According to the API's articles of incorporation, the purposes of the Institute were set forth as follows:

"(a) To promote the efficient and profitable use of potash in agriculture

in Cuba, Canada and in the United States, including Hawaii and Puerto Rico, hereinafter called Institute countries.

"(b) To serve as a medium for the exchange of information on the use and consumption of potash between the members of the Institute, on the one hand, and the several state, federal, provincial, dominion, and territorial agricultural authorities and all others interested in the use of potash fertilizers in agriculture, on the other hand, and cooperate as a unit with other plant-food producers.

"(c) To aid in securing the coordination and cooperation in experimental work and the use of potash between members of the Institute and

(Continued on page 8)



AT CORN BELT AMMONIA CONFERENCE—Representatives of sponsoring organizations of the Corn Belt Agricultural Ammonia Conference, held at the University of Illinois recently, are shown in the top photo. They are, left to right, standing, Clifford P. Hoyer, president of the Anhydrous Ammonia Association of Illinois, Jack F. Criswell, executive vice president of the Agricultural Ammonia Institute, and Dr. M. B. Russell, head of the University of Illinois agronomy department representing the College of Agriculture. Seated is Mark C. Craft, president of the Agricultural Ammonia Institute. In the bottom photo are several speakers at the conference. They are, from left to right, Mr. Craft, Dr. Lloyd Frederick, Purdue University agronomist; Dr. Michael Peech, Cornell University agronomist, and Prof. C. M. Hansen, Michigan State University agricultural engineer. See page 1 of the Sept. 26 Croplife for a story of the conference.



DAVISON SAFETY AWARD—For the fourth time in five years Davison Chemical Co. Division of W. R. Grace & Co., has won the "Award of Honor" of the National Safety Council, the highest award which the council grants. Marlin G. Gelger, right, above, president of Davison, joined with A. B. Pettit, center, the company's director of industrial health and safety, in accepting the award from J. W. Carothers, left, president of the Baltimore Safety Council. To win the honor, Davison on a company-wide basis in 1954 scored a 58% reduction in frequency of accidents and a 32% reduction in severity of accidents from "par" figures set up by the national organization, which are averages derived from previous accident records. In addition to the national award, the Safety Council's Award of Merit went to Davison plants at Curtis Bay, Md.; Bartow, Fla.; Perry, Iowa, and Nashville, Tenn., and its Commendation Certificate to Gretna, La., and Columbus, Ohio, plants.

USDA Announces 1956 Sugar Beet Acreage Allotments

WASHINGTON—The U.S. Department of Agriculture has announced that a national acreage objective of 850,000 acres has been established for the 1956 crop of sugar beets. This is the same total objective as for the 1955 crop. Except for 500 acres set aside as a national reserve, the entire acreage has been allocated to states.

The state acreage allocations are based on 1955-crop allocations (recomputed to give effect to final 1954 planted acreages) with limited downward adjustments for states in which 1955-crop plantings did not reach 95% of the recomputed allocations and with corresponding pro rata increases for the other states.

The state allocations, with comparisons, follow:

State	1955 allocation	Estimated 1955 plantings	1956 allocation
California	182,410	172,000	182,530
Colorado	130,715	124,000	131,591
Idaho	79,715	79,715	80,054
Illinois	2,095	1,820	2,007
Indiana	70	40	64
Iowa	1,545	884	1,485
Kansas	7,255	6,848	7,267
Michigan	81,420	65,614	77,803
Minnesota	66,035	66,013	67,263
Montana	50,980	50,680	51,248
Nebraska	58,720	57,613	58,816
New Mexico	770	770	764
N. Dakota	34,600	34,600	35,006
Ohio	20,220	19,782	20,367
Oregon	17,685	17,685	17,805
S. Dakota	5,365	5,365	5,478
Texas	1,590	1,576	1,631
Utah	30,545	30,291	30,614
Washington	30,795	30,795	30,813
Wisconsin	12,865	7,200	12,149
Wyoming	34,645	34,545	34,745
Reserve	0	0	500
Totals	850,040	807,536	850,000

Virginia-Carolina Sales, Income Drop

RICHMOND—Net sales of Virginia-Carolina Chemical Corp. in the fiscal year ended last June 30 were \$77,493,655, a reduction of 9.3% from net sales of \$85,445,975, an all time high, in 1953-54, according to the firm's annual report.

Net income in 1954-55 was \$2,409,063, compared with \$3,618,198 a year earlier.

In his report to stockholders Joseph A. Howell, president, said that the disposal of the firm's Black Leaf Division last February and a strike at the Florida phosphate mines accounted for about 40% of the decrease in net sales.

(On Feb. 28, 1955 a new corporation, the Diamond Black Leaf Co., was formed jointly by V-C and Diamond Alkali Co., Cleveland, to take over the plants, inventory and business of the V-C Black Leaf Division. Diamond holds major interest and full control of operations of the new company, and has agreed to acquire V-C's minority interest within a 5 year period. See Croplife, Feb. 28, 1955, page 1.)

Laurance S. Rockefeller Named to Board Of Olin Mathieson

NEW YORK—Laurance S. Rockefeller has been elected a member of the board of directors of Olin Mathieson Chemical Corp., according to an announcement by John M. Olin, chairman of the board, and Thomas S. Nichols, president.

Mr. Rockefeller is president of Rockefeller Brothers, Inc., an investment and research organization founded in 1946 to survey the needs for venture capital in such fields as aviation, electronics and housing. He is a director of the Chase Manhattan Bank, Eastern Airlines, Inc., International Basic Economy Corp., International Nickel Company of Canada, a member of the New York Stock Exchange and chairman of the board of Rockefeller Center, Inc.

Program Planned For Fertilizer Safety Section

CHICAGO—A wide range of safety topics will be covered in talks and reports at the annual meeting of the Fertilizer Section, National Safety Council, to be held Oct. 17-18 at the LaSalle Hotel, Chicago. Sessions will be held on the afternoon of both days.

Following is the program:

Oct. 17—Thomas J. Clarke, G.L.F. Soil Building Service, Ithaca, N.Y. report of the general chairman; Vernon S. Gornto, Smith-Douglass Co., Norfolk, Va., report of nominating committee and election of officers; Max W. Foresman, Spencer Chemical Co., Kansas City, "Safety and Human Relations;" P. W. Logan, Liberty Mutual Insurance Co., Atlanta, "Selling Safety, or Management and Supervision's Part in Loss Prevention;" Dr. Charles W. Nelson, University of Chicago, "Report on Motivation Study;" Curtis A. Cox, Virginia-Carolina Chemical Corp., Richmond, leader, views and interviews.

Oct. 18—Luncheon, with remarks by general chairman elect; B. J. Phillips, Coronet Phosphate Co. Division of Smith-Douglass Co., Plant City, Fla., "Is Safety First?"

Beginning at 2 p.m. Oct. 18 will be a panel discussion on safety musts, with Mr. Cox as leader. The panel will include:

Duncan MacDonald, Anaconda (Mont.) Copper Mining Co., "Mechanical Guards;" R. G. Diserens, Phillips Chemical Co., Bartlesville, Okla., "Conveying Devices;" Fred H. Courtney, Federal Chemical Co., Louisville, "Fire Protection;" C. L. McDaniel, Lion Oil Co., El Dorado, Ark., "Liquid Nitrogen;" Robert P. Henry Willson Products, Inc., Reading Pa., "Fertilizer-Insecticide Mixing Problems;" Albert A. Waugh, International Minerals & Chemical Corp., Bartow, Fla., "Safety Rules;" D. Lydy, Goodrich-Gulf Chemicals, Inc., Port Neches, Texas, "Electrical Hazards." The panel discussion will end with a question and answer period.

Plans Set for Meeting of Pacific Northwest Group

PORTLAND — The sixth annual convention of the Pacific Northwest Plant Food Assn. will be held at the Pilot Butte Inn, Bend, Ore., Nov. 2-3. A pre-convention cocktail hour will be held on the evening of Nov. 1 with the convention official opening scheduled for the morning of Nov. 2.

Principal speakers at the convention will be Dr. Russell Coleman, executive vice president, National Plant Food Institute; Dr. William Pearl, Administrator of the Benneville Power Administration, and Burton Hutton, assistant state 4-H club leader.

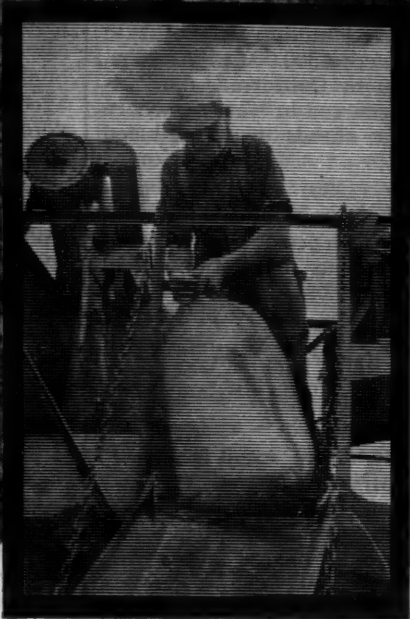
Featured banquet speaker will be Asa V. Clark, one of the farmers who recently toured Russia.

Reports will be heard on the Idaho farm demonstration project, now being currently sponsored, the Washington project which was completed last year and a possible Oregon project for this coming year.

Election of officers for the coming year will be held Nov. 2 prior to the annual banquet. Attendance is expected to approach the 200 mark.

Dates Set for Ohio Pesticide School

WOOSTER, OHIO—The Ohio Pesticide Institute will hold its ninth annual school and conference at the Fort Hayes Hotel, Columbus, Ohio, Nov. 16-17, according to an announcement by J. D. Wilson, Ohio Agricultural Experiment Station, secretary of the OPI.



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INSECT AND PLANT DISEASE NOTES

Virginia Growers Advised To Watch for Infestations

BLACKSBURG, VA. — Corn earworm infestations and damage to soybeans seemed to have dropped considerably by Sept. 28, but farmers are advised to keep on the alert for another brood of larvae that may yet damage the late crop.

Arthur P. Morris, associate entomologist at Virginia Polytechnic Institute, says corn earworms continue numerous on snap and lima bean crops in eastern areas, and are present to a lesser extent on peppers.

Many insects are causing concern on forest trees, shade trees, and ornamental plants. Although it is rather late in the season to apply control measures this year, growers are advised to watch the plants for the first signs of infestations next spring, and apply controls at the proper times.

Ants, clover mites, crickets and European hornets are appearing in homes across the state. Box-elder bugs are expected soon to start entering some homes in search of winter hibernation sites.

Several kinds of insects are damaging truck crops in eastern Virginia. Fall armyworms, yellow-striped armyworms, cutworms and loopers are doing severe injury to cabbage and kale crops. Leaf miners are worse than usual on cucurbits. Pickleworms are starting to infest fall plantings of cucurbits, and are doing severe damage to some varieties of pumpkins.

Caterpillars Bother Arizona Farmers

PHOENIX, ARIZ.—A late siege of the Salt marsh caterpillars was occurring in some parts of Maricopa County late in September. Some growers are quite disturbed over this and control measures are being practiced.

Growers continue to use various materials for control of this insect and in the Yuma area, good controls are being secured with 40 lb. 15% Toxaphene, 5% DDT and 40% sulfur. In Maricopa County some growers are using a combination of the above materials, plus 2% Parathion. Some growers are also using ½ lb. liquid Parathion per acre.—J. N. Roney.

Many Peach Tree Borers In South Carolina Orchards

CLEMSON, S.C.—During the past few years the peach tree borer population and the resulting damage have been too high in the commercial peach orchards in this state, according to Roy J. Ferree, leader, Clemson horticulture extension work. He says this condition has resulted from either warm winters or from improper timing or improper methods of applying borer control treatments.

He cautions growers to apply the recommended treatments at the proper time, not to dig soil away from tree trunks in making applications, and not to apply the material used below the point where borers enter the trees. Chemicals recommended for soil treatment for borer control in the fall are paradichlorobenzene (PDB) and ethylene dichloride. The PDB should be applied in the Piedmont section of the state from October 1 to 10 and in the central part of the state between October 8 and 18. The ethylene dichloride should be applied in the Piedmont October 7-20 and in the central part of the state October 12-25.

Mr. Ferree cautions growers that for maximum results the applications

should be made during these dates because PDB requires a soil temperature of 70 degrees F. and ethylene dichloride a temperature of 60 to 65 degrees F. for best results.

"In preparing for application of borer treatment chemicals, build up the soil around the trees to a point above where the borers have entered, apply the chemical, and then cover," he states. "It is necessary to put the chemical above the point of entrance, as the gases formed by both of the above materials are heavier than air and will work downward. Where the chemicals are applied below the point of entrance of the borers, no control will result," he adds.

Mr. Ferree suggested on Sept. 24, that growers who applied sprays during the summer for borer control should examine their trees about October 1-10 to determine the effectiveness of the spray treatment. If very many borers are found in these trees, PDB or ethylene dichloride should be applied this fall, he advised.

Cotton Pests Reported Abundant in New Mexico

STATE COLLEGE, N.M. — Cotton aphids are generally light throughout cotton fields in Dona Ana, Eddy and Sierra Counties, according to reports as of Sept. 16. Spider mites are spotty in some fields in Dona Ana County. In dry areas of poor producing fields where plants are short and foliage is light, mite infestations are heavy.

Cotton leafworms are showing up in some areas of Dona Ana and Curry counties, but no damaging infestations have been reported. Stink bugs are causing damage to large and small bolls in several cotton fields in Dona Ana County.

Pink bollworms are light on several acres of cotton in southern Dona Ana County. Infestations average 5 to 6%. One field in the El Paso area, within a few miles of the state line, was checked and a 98 to 99% infestation was found. This is undoubtedly the worst infestation of pink bollworm in this area to date.

Pea aphids are abundant on 1,500 acres of alfalfa in Mora County. Yellow clover aphids are present in most alfalfa fields in Dona Ana and Eddy Counties, but no damaging infestations have been reported. False chinch bugs are causing damage to 2,500 acres of grain sorghum in Curry County.

Cabbage loopers are causing damage to seedling lettuce in Dona Ana County. Control measures are being taken by most growers. Horn flies are abundant on range cattle in Catron County.

Grasshoppers are abundant on range land throughout the state. Catron County reports 10,000 acres infested, Mora County reports 45,000 acres infested and Harding County reports 500 acres infested. Grasshoppers are also causing damage to 5,000 acres of hay, small grains and garden crops in Taos County.—John Durkin.

Vegetable Pests Plentiful, Colorado Report Says

FORT COLLINS, COLO.—Two tomato pests and troublesome corn root worm were the objects of special attention in the Sept. 14 report of agricultural insect conditions in the state by the Colorado Insect Detection Committee.

Tomato psyllid numbers were building up in commercial plantings throughout eastern Colorado. Large numbers of psyllid eggs were showing up in some fields, with the greatest number of eggs being reported in fields in Pueblo County.

Dr. L. B. Daniels, chairman of the

(Continued on page 21)

Federal and State Scientists In All-Out Effort to Control Yellow Clover Aphid in West

WASHINGTON—Federal and state scientists have mobilized forces for an all-out effort against the yellow clover aphid (*Myzocallis trifolii* Monell), the pest which has proved to be unusually destructive on alfalfa in the Southwestern part of the U.S.

The Agricultural Research Service of USDA has just completed a report on the aphid, summarizing the information gathered to date on the insect. The report was prepared in the Entomology Research Branch of ARS.

The USDA says that in 1954, this insect caused an estimated damage to alfalfa of \$4 million in the state of New Mexico; \$500,000 in Arizona, and \$337,000 in California. An outbreak also occurred in Nevada, where some alfalfa stands were reduced 80%.

This year (1955) the aphid continues to cause widespread damage to alfalfa in all previously infested states, and serious infestations have occurred in parts of Oklahoma, Texas, Utah, and Kansas. Infestations have been recorded on mixed stands of clover and alfalfa in Nebraska. It is a threat to all alfalfa-producing regions of the U.S.

The yellow clover aphid is a new pest of alfalfa in the U.S. The insect has been reported in this country for many years, but it has been found principally on red and white clovers, sweetclover, and burclover, and has caused little damage to these crops. It is a pest of alfalfa in Europe, Asia, and Africa.

The aphid became a serious pest on alfalfa in New Mexico in the spring of 1954, when 5,000 acres of the crop were damaged in the Pecos Valley in the southeastern part of the state. It is now the most destructive alfalfa insect in New Mexico, being present in large numbers throughout the state. Areas that are hardest hit include the Pecos, Hatch, and Mesilla Valleys; Chaves and Eddy counties; and the Tularosa Basin.

Arizona was the next state to report the aphid's presence on alfalfa in 1954. The Yuma area became infested early in May, and by the end of June the insect population had reached epidemic proportions. New plantings and reseeded fields in Graham County were also heavily infested. The aphid spread rapidly throughout the state, and in 1955 has caused concern in the southern portion, with damaging infestations reported from Maricopa, Graham, Greenlee, and Santa Cruz counties.

In California, the yellow clover aphid has become widely distributed on alfalfa since it was first found on this crop in the southern part of the state in 1954. From the Holtville-El Centro area in Imperial County it has spread west and north, reaching as far as Kern and Fresno counties and to Barstow in San Bernardino County. Damage has been severe near Brawley in Imperial County and near Blythe in Riverside County.

In Texas, heavy infestations occurred on alfalfa in the north-central area, with many fields killed out. Several counties to the south and west also reported severe infestations. By April, 1955, the aphid was widespread in most parts of Oklahoma, and control measures were being applied in many places. Infestations in alfalfa occurred in many counties of Kansas this year. In Nebraska, the aphid has been found in mixed fields of clover and alfalfa in several counties, but has not been ob-

served in alfalfa fields not associated with clovers.

Yellow clover aphids damage alfalfa in two ways:

- (1) They suck the juices from the leaves, causing them to turn yellow, and drop off. At the same time they may inject a toxin that interferes with plant growth.
- (2) They secrete a sticky honeydew, which interferes with harvesting and drying and reduces quality of the hay.

The major damage is usually on the lower part of the plant, where aphids do much of their feeding, particularly on the underside of leaves. However, some of them feed on the upper leaf surfaces, in buds, or on the stems. Severely damaged plants are almost completely defoliated, with only a tuft of leaves remaining near the terminals.

Defoliation caused by the aphid lowers seed yield and retards the growth of alfalfa following cutting. Young alfalfa stands are greatly reduced. In some cases the average 4-year life of a stand has been reduced to two years. In New Mexico Pecos Valley in 1954 the aphids caused about 90% of the spring-stand and 75% of those seeded preceding fall.

The honeydew secretion adds to the grower's problems. A black mold thrives on it, and black plant crowns show up immediately after cutting. This discoloration greatly reduces the quality of hay. Hay with a heavy honeydew deposit cannot be dehydrated properly, and it is difficult to cut bale. Growers have found that honeydew sticks to the tire tractors, and that they often have to wash out their balers with hoses to get rid of the gummy substance.

The yellow clover aphid is pale green, 1/16 to 1/8 inch long, and rows of black spots on its back. The adult insects have wings; do not. When disturbed, the aphid jumps or flies rapidly from plant to plant.

Oftentimes, the yellow clover aphid is mistaken for the pea aphid, which is also a pest of alfalfa. But it is to tell the two insects apart by appearance and by their feeding habits. The yellow clover aphid is about half as large as the pea aphid. Its feeding pattern is to infest older leaves near the base of the plant and work upward, whereas the pea aphid infests the terminal leaves and then goes downward. The pea aphid is light green and does not have black spots on its body.

In the Southwest the yellow clover aphid is almost completely parthenogenetic; that is, most forms are females and are capable of reproducing without fertilization. The aphid gives birth to living young and does not lay eggs. Each aphid produces 25 to 100 young, and there may be as many as 20 to 30 generations a year. Entomologists have found that high temperatures stimulate insect breeding and that under optimum conditions an aphid probably gives birth to offspring every few hours.

In the East and Midwest the aphid lays eggs on clovers in the fall. The eggs hatch the following spring. Up to 17 generations usually develop before cold weather sets in.

Scientists of the U.S. Department of Agriculture and of various state agricultural experiment stations are approaching the yellow clover aphid problem from many angles. Research projects now under way include investigations of

seasonal development and habits of insect parasites and predators, insecticides, and alfalfa varieties that may show resistance to the insect's attack.

A great deal is already known of the aphid's habits, life history, and its plant relationships from research conducted by Federal entomologists as far back as 1909. Information from these past studies is proving useful in the present evaluation of the insect's background.

It has not yet been possible to distinguish on the basis of structural differences aphids occurring on alfalfa in the Southwest from those selected from clovers elsewhere. But the fact that the aphid has been known as a minor pest of clover in the U.S. for many years, and only recently has been found attacking alfalfa in the Southwest, suggests that more than one strain may be involved.

In preliminary observations on many varieties of alfalfa exposed to yellow clover aphids, some of the varieties have been only lightly infested or have been practically free from attack. These are promising sources of resistance for use by the breeders in the alfalfa crop-improvement program.

In California and Arizona, Lahontan alfalfa and experimental crosses have shown resistance to the aphid. Lady beetles feed on yellow clover aphids, but have little effect in controlling them on alfalfa early in the season. In later growths they have sometimes practically eliminated the aphid population. California and other scientists are conducting a wide-wide search for parasites and predators of this aphid, and entomologists in foreign countries have been alerted to be on the lookout for likely beneficial insects that can be shipped to this country, reared, and then released in infested fields.

Researchers in infested states have reported on a wide range of insecticides that will control the yellow clover aphid. But there are limiting factors connected with their use.

The organic phosphorus compounds, such as parathion and malathion, which remain on the plants for only a short time, can be used on either forage or seed crops, and insecticides of this type must be relied on to protect alfalfa being grown for hay. They provide immediate control, but their short residual action does not prevent damage from reinfestation.

Aphids often reinfest crops four to seven days after treatment. Therefore several applications are necessary to control the insect. (Parathion and malathion should not be applied when bees are active in the field during the blooming period of alfalfa.)

The chlorinated hydrocarbons, particularly toxaphene and DDT mixtures, provide longer lasting control, but should be used only on seed crops, and not on those intended for feed.

Entomologists in Arizona, California, and New Mexico have tested DDT, malathion, parathion, endrin, DHC, Systox, sulfur, nicotine, TEPP, toxaphene, Perthane, and combinations of several of these insecticides to control the yellow clover aphid. They found that a number of them showed excellent short-run results, but repeat applications were necessary to destroy reinfestations.

The following discussion is based on work conducted by the Arizona and California agricultural experiment stations.

In California, sprays of parathion at 2 to 4 oz. and malathion at 8 to 12 oz. an acre have been used extensively to control the yellow clover aphid on seedling alfalfa. On alfalfa being grown for hay, the pre-harvest dosages are 4 oz. parathion and 8 to 12 oz. malathion.

On seed alfalfa, toxaphene as recommended for lygus bug control has been effective against the aphid.

Dusts may be more satisfactory than sprays on this crop because of better penetration to the lower part of the plant, where the insect prefers to feed. Systox at the rate of 4 oz. an acre has also been used on alfalfa in California.

In Arizona, malathion and parathion dusts have been the most effective. Best results have been obtained when all infested fields within an area were treated, and when the crops were thoroughly covered with the insecticide. A dust can be applied with a ground duster that is equipped with a canvas trailer, or by airplane.

The best time to use a ground duster is in the morning or in the evening when the wind velocity is less than 4 mph. A 5% malathion or 2% parathion dust can be applied at the rate of 12 to 15 lb. an acre with a ground duster, or at 20 lb. by airplane.

A malathion or parathion spray is also recommended for use in Arizona. It should be applied with a ground sprayer that has a pressure of 80 to 100 lb. per square inch in order to force the insecticide to the underside of the alfalfa leaves, where the aphids feed. One pint of a malathion emulsifiable concentrate containing 5 lb. insecticide per gallon or a 25% parathion emulsifiable concentrate in about 6 gal. water an acre is recommended.

If the alfalfa is grown for seed only, the grower may use DDT, toxaphene, or toxaphene mixed with sulfur or with both sulfur and DDT.

(USDA adds this caution to the above discussion on controls: Alfalfa should not be fed for 15 days after application of parathion or malathion. Hay or chaff from fields of alfalfa treated with DDT or Systox, or with toxaphene at a dosage above 1½ lb. an acre should not be fed to dairy animals nor to animals being finished for slaughter. Alfalfa treated with toxaphene at a lower dosage can be fed 40 days after application.)

The yellow clover aphid problem on alfalfa is a recent one. Entomologists have already done much to alleviate the situation, but there has not been sufficient time to investigate the problem fully. Further research is needed on the aphid's habits and development, taxonomy, adaptation of insecticides to the specific requirements of this problem, identifying strains of alfalfa resistant to the aphid, and thorough exploration of natural control agents, including parasites, predators, and diseases.

The early discovery of varieties that show resistance to the insect indicates that a long-range solution to the problem may lie in the cooperative efforts of plant breeders and entomologists to develop an alfalfa resistant to the yellow clover aphid.

New England Group Reviews Current Research

POLAND SPRING, MAINE—A review of current research in fertilizer usage in the New England states and a look into the future of the fertilizer industry were presented at the annual New England Fertilizer Conference held at the Poland Spring House Sept. 29-30.

The meeting, attended by approximately 75 fertilizer manufacturers, experiment station personnel and suppliers of fertilizer ingredients, was arranged by the National Plant Food Institute. W. R. Allstetter, vice president of the institute, was that organization's representative at the meeting. Dr. W. C. Libby, associate dean of the College of Agriculture, University of Maine, presided.

S. R. White, district sales manager, Spencer Chemical Co., Chicago, was the principal speaker at a banquet which closed the meeting. His topic was "Tips on Selling More Fertilizer."

A complete report of the meeting will appear in next week's CROPLIFE.



George C. Duckworth

George C. Duckworth Named Southeastern Manager of Niagara

MIDDLEPORT, N.Y.—The appointment of George C. Duckworth as southeastern manager of Niagara Chemical Division, Food Machinery & Chemical Corp., has been announced by S. H. Bear, vice president and sales manager of the division. Mr. Duckworth will make his headquarters in Jacksonville, Fla.

Previously, Mr. Duckworth had been district sales manager in the Texas-Oklahoma area, with offices at Harlingen, Texas. He has been with Niagara Division in various sales positions since his discharge as a flying officer in the U.S. Army during World War II. He is a graduate of Mississippi State College.

Croplife Want Ads...
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Edward G. Ackerman Appointed Nopco Advertising Manager

HARRISON, N.J.—Edward G. Ackerman has been appointed advertising manager of the Nopco Chemical Co., according to an announcement made by G. Daniel Davis, executive vice president of Nopco.

Mr. Ackerman has had more than 15 years' experience in various phases of advertising and sales promotion work. He is a former vice president of Riedl & Freede, Inc., an advertising agency. He has also been associated with the Hercules Powder Co., the Koppers Co., and the Manufacturers Chemical Co.

In his new position at Nopco, Mr. Ackerman will be in charge of advertising and sales promotion for the entire company.

Sydney N. Stokes Heads Chemical Group

NEW YORK—Sydney N. Stokes, assistant to executive vice president, van Ameringen-Haebler, Inc., has been elected chairman of the Drug, Chemical & Allied Trades Section of the New York Board of Trade.

Other officers elected were J. David Hayden, R. P. Scherer Corp., vice chairman; W. Boyd O'Connor, Ayerst Laboratories division of American Home Products Corp., treasurer; James G. Flanagan, S. B. Penick & Co., counsel; and Helen L. Booth, secretary.

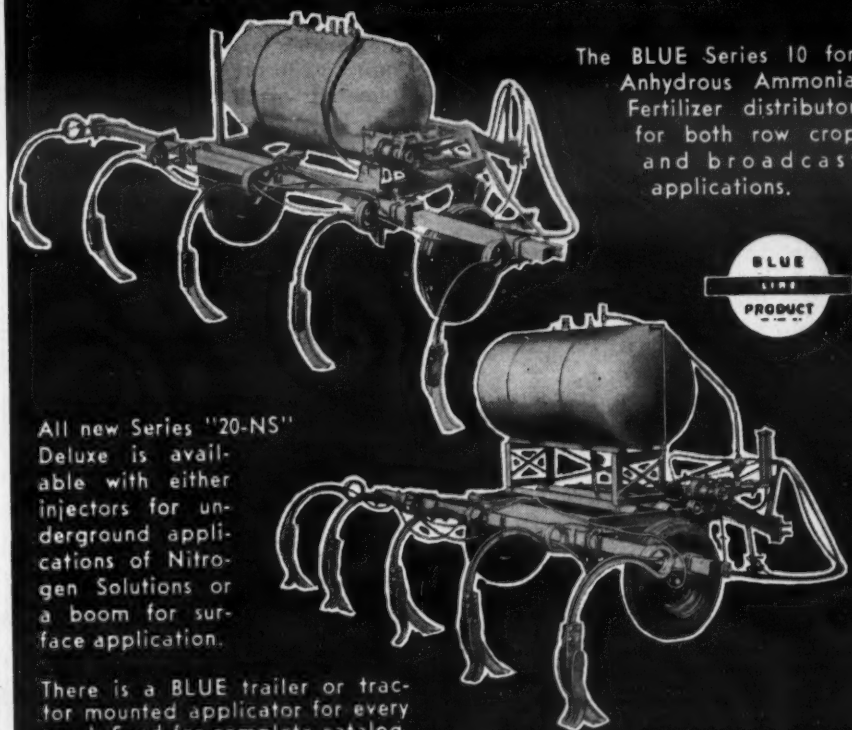
The group is composed of more than 800 manufacturers and distributors of drugs, chemicals and related products located in 226 cities.

Multi-Wall PAPER BAGS
HAMMOND BAG & PAPER CO.
General Offices: Wellsburg, W. Va.
Plants in: Wellsburg, W. Va.
Pine Bluff, Ark. • Charlotte, N.C. • Polatka, Fla.

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EQUIPMENT Gets Into the Soil!



The BLUE Series 10 for Anhydrous Ammonia Fertilizer distributor for both row crop and broadcast applications.

All new Series "20-NS"

Deluxe is available with either injectors for underground applications of Nitrogen Solutions or a boom for surface application.

There is a BLUE trailer or tractor mounted applicator for every need. Send for complete catalog.

JOHN BLUE CO., INC.

Huntsville, Alabama Dependable Farm Equipment Since 1886

Water Conference Underlines Diminishing Supply in Texas For Agriculture and Industry

COLLEGE STATION, TEXAS—What is an acre-foot of water worth? This question was one of the most important raised during the recent "Water for Texas" conference held at Texas A&M College last week. More than 100 geologists, engineers, hydrologists, meteorologists, industrialists and others interested in water and its uses attended the three-day meeting.

State Senator Dorsey Hardeman of San Angelo raised the question when he spoke early in the first session. After admitting that he didn't know the answers, he said, "We'll have a better understanding and response on the part of our people when we can tell them what an acre-foot of water is worth to the economy and well-being of the people and the state."

"What we need from a political point of view, is some support from the public... in order to bring about a conservation of this great natural resource," he added.

The basis of all our laws on water is the beneficial use to which it may be put, he said, and added that the great misconception about water conservation is that we can do it without cost. Touching on the "basic information" theme of the conference, he said, "Let's translate some of this information which we already have into action right now."

The senator also warned that unless the people of Texas do something about solving their own water problems, they are apt to lose control of this great natural resource. "In the absence of state action, don't think the federal government is going to stand idly by," he said.

Dr. J. R. "Rex" Johnston, area supervisor, Agricultural Research Service, Amarillo, gave the group some figures to consider.

A total of 362,100,064 acre-feet of water falls annually on Texas, he said. Of this, 85,548,420 are intercepted and returned to the atmosphere by plants; 232,051,864 are absorbed by the soil, and 44,498,720 go into the streams as runoff. Of the amount which goes into the soil, about 131 million are used by plants of little or no economic value, he said.

"The future of the state will depend upon the vision of its people concerning the water problem," he said. "Experience has shown that success in conservation programs depends on local action."

R. M. Dixon, chairman of the state board of water engineers, Austin, a banquet speaker, told the group that Texas has enough water if it's wisely used—but that it doesn't have any to waste. For benefit of newsmen present, he remarked that water is news only twice—when there's not enough, and when there's too much.

Mentioning comments he'd heard about "surplus water in Texas," he said such talk means surplus in some areas only. He outlined water legislation, beginning with the Roman empire and following it down through its various migrations and usages until it arrived in Texas to leave the hodge-podge of water law which exists in the state—and in many other states—today.

In closing, Mr. Dixon quoted an old Nigerian chieftain: "Our waters belong to a vast family of which many are dead; a few are living, and countless are yet to be born."

Current usage received a scathing comment from Mr. Dixon: "When the

law of the jungle—the rule of the pig-trough—prevails, we're not going to get much done. We've got a tremendous job of education to do."

Some of the difficulties facing educators in trying to tell the water story to the public in understandable manner also were touched on by Harold Thomas, staff engineer, ground water branch, U.S. Geological Survey, Salt Lake City, Utah.

He said that "Many western states now require records on every well drilled—not to pry into the owner's business, but because every well is a periscope into the unknown."

Recharge methods and rates for our underground waters are among the least known things about ground water reservoirs, he said. "I think it's very true of many of our ground water reservoirs that we haven't had a recharge year since 1941. It isn't the normal year which recharges some of these reservoirs," he said. "It's the exceptional year." Not enough is known about ground water, he said. Most research has been done on discharge—and we need more, even of that.

Dr. John Boyd Page, head of the Agronomy Department at Texas A&M College, told the group that "We don't know exactly how much water is needed for plant growth—but we're trying to find out."

"Texas now has one sixth of the total irrigated areas of the United States," he said, "but we are not doing the job that needs to be done."

Dooley Dawson of Houston, Second National Bank, told the group that about one million acres of farm land are being lost each year to new highways, industrial plant sites and other developments; and that the average use of water per person in the U.S. now stands at 1,300 gallons daily.

A. C. Spencer, employed by the Texas Soil Conservation Board, told the group that about 50% of the water now used for beneficial purposes in Texas is used by the farmer. "Gentlemen, that makes the farmer a big user of water," he said.

Speaking of floods and flood control, Mr. Spencer said that the big floods which take lives and destroy millions of dollars worth of property are the ones most of us notice. But the soil is a farmer's capital, and every flood in the fork of the creek is important to the farmer, and all floods are important to the farmer, he said.

Touching on the highly controversial Public Law 566, he reported that to date 90 applications from small watershed groups have been received in Texas. Fifty four have been examined. Forty one were found practical, and 13 have been finally disapproved, he said.

The Water for Texas program was sponsored by the Texas A&M College System. General chairman was Gibb Gilchrist, former chancellor of the system. Program chairman was Dr. Paul Weaver, a retired geologist, who probably is one of the best-informed men on water in the world. Dr. Weaver now is a professor at Texas A&M.

EQUIPMENT GROUP ELECTS

NEW ORLEANS—Frank H. Hamlin, president and general manager, Papec Machine Co., Shortsville, N.Y., was elected president of the Farm Equipment Institute at the closing session of the two-day 62nd annual convention at the Roosevelt Hotel here. H. H. Bloom, president, Massey-Harris-Ferguson, Inc., Racine, Wis., was named chairman of the executive committee.

Grain Sanitation Standards to Be Tightened Next July

WASHINGTON — The Food and Drug Administration's grain sanitation standards will be substantially tightened beginning next July, the FDA has announced.

Wheat shipments in interstate commerce will be subject to libel and seizure if, upon inspection, they are found to contain one or more rodent pellets per pint or 1% or more of insect-damaged kernels. The present FDA tolerances are just double those to be provided in the tightened requirements.

The change will be put into effect July 1, 1956, to coincide with the beginning of the crop year and thus permit the grain trade time to make the necessary adjustments, FDA said.

The new levels will be applied in the random sampling of cars of wheat which was resumed last January after a temporary suspension for studies by an advisory committee on grain sanitation. When the program was resumed, sanitary requirements were set initially at no more than two rodent pellets per pint or 2% or more insect-damaged kernels, with progressive revision to be undertaken in the light of experience.

George P. Larrick, commissioner of food and drugs, said that during the period of January through July 31, 1955, wheat from 3,754 cars was examined by FDA. Of these, 29 cars were found to contain rodent filth in excess of the actionable damage to the extent of the stated 2% or more of the kernels.

Mr. Larrick said: "Under the program, substantial progress has been made in improving the handling and storage of wheat to prevent contamination. However, experience acquired during the past six months shows that the levels of judgment should be tightened if the program is to continue to be effective in promoting increased cleanliness in our nation's food supply."

The new levels will be effective during the 1956 crop year (to July, 1957), at which time the program will again be reviewed, FDA said.



John W. Crowther

NAMED — Current expansion of the Frontier Chemical Co., Wichita, Kansas, into a new field is marked by the appointment of John W. Crowther as product manager for chlorinated solvents, effective Sept. 16, Melvin E. Clark, vice president, marketing, has announced. Mr. Crowther will have charge of product specifications, development of markets and sales management of chlorinated solvents produced in facilities now nearing completion at Frontier's Wichita plant. Mr. Crowther was graduated from Massachusetts Institute of Technology in 1932 with a B.S. in chemical engineering.



Robert J. Engelhardt

Robert J. Engelhardt New Vice President Of J. C. Carlile Corp.

DENVER — Robert J. Engelhardt has joined the J. C. Carlile Corp. as a vice president. He has been sent to Atlanta, Ga., for the opening of sales and engineering office which will manage and from which the company will service the east coast and gulf coast states. Mr. Engelhardt spent the year since 1946 in Atlanta, Newark and New York City as chemical engineer.

The J. C. Carlile Corp. manufactures fertilizer plants built around portable ammonia converter of own design.

Mr. Engelhardt spent a number of years as a production supervisor and in other capacities with Armour Fertilizer Works, Carteret, N.J., and Bartow, Fla. He has also been group supervisor for E. I. DuPont Nemours & Co. and a chemical engineer for Westvaco Chemical Division of Food Machinery & Chemical Corp. Most recently, he was project engineer for John J. Harte Co., engineers and constructors in Atlanta.

Mr. Engelhardt received his bachelor of science degree in 1941 from Tri-State College, Angola, Ind., and spent the war years in the chemical warfare division of the U.S. armed forces. The J. C. Carlile Corp. headquarters are 425 Cooper Bldg., Denver 2, Colo.

Revised Bulletin On Stored Grain Pests Issued by USDA

WASHINGTON—The principal insect pests of stored grain, including the khapra beetle that only recently has been found in this country, are described and illustrated in a revision of a Farmers' Bulletin just issued by the U.S. Department of Agriculture.

The khapra beetle, one of the most important pests of stored grain in other countries that had not previously existed in America, was discovered in California in 1953 and now is found also in Arizona, New Mexico and Baja California, Mexico. A federal quarantine was invoked in February, 1955 to keep it from spreading to other areas. A description of this beetle, together with illustrations of both the larval and adult forms, has been incorporated in the revised Farmers' Bulletin 126 "Stored Grain Pests."

The bulletin discusses grain weevils, grain borers, grain moths, flour moths, grain and flour beetles, mealworms, spider beetles, miscellaneous beetles, booklice, silverfish, cockroaches, flour or grain mites and parasites of grain pests. A single free copy of "Stored Grain Pests" may be obtained by writing to the Office of Information, U.S. Department of Agriculture, Washington 25, D.C.

Hercules Executive Stresses Pesticide Safety at Industrial Health Conference

HOUSTON—Farm chemicals have saved the cotton farmers alone three-quarter billion dollars a year through control of insects, Dr. Lemuel C. McGee, director of Hercules Powder Co.'s Medical Department, said here recently before the Gulf Coast Eighth Annual Conference on Industrial Health.

"Only a few years ago, more than a billion dollars of cotton was lost each year to the boll weevil and other cotton insect pests. Through the use of new insecticides that loss has been slashed to less than a quarter billion—still a big loss, but a giant step forward in the science of insect pest control," Dr. McGee commented.

Speaking on the topic "The Farmer and his Chemicals," Dr. McGee also pointed out that no other chemical receives such rigid study before it is marketed, as does a new pesticide, and that information for effective and safe use is widely distributed through the cooperation of the press, radio, TV, and the federal and state extension services.

An economic poison is required by law to bear warning statements when necessary to protect the public from injury. But it is easier to require pound labeling than it is to get the user to read and obey the labeling, Dr. McGee said.

"Accidental deaths from insecticides are rare and we can further reduce accidents with chemicals needed in agriculture by recognizing their properties and the correct manner of applications," he stated.

"There is no utterly safe material . . . even table salt or pure water can and does kill. . . . In recent years, the poisoning record of furniture polish is about equal to that of insecticides; petroleum products and aspirin each are said to have caused accidental deaths at an annual rate six times that of all insecticides. However, a death from an insecticide receives considerable attention because the agent often is new and less well known than furniture polish or aspirin.

"Let us respect the insecticides as useful but potent agents and follow these simple rules: read the label carefully—fine print and all; store the material safely and consider both the usual and unusual situation; destroy containers and clean sprayers after use."

Union Carbide Sets Up New Public Relations, Advertising Groups

NEW YORK — Consolidation of public relations activities of Union Carbide and Carbon Corp. in a new public relations department, and formation of advertising departments in four of its division companies, has been announced. These new groups will take over the advertising work formerly handled by the General Publicity Department. The Public Relations Department will be responsible for the corporation's public relations and stockholder relations program. H. F. Bulkley is named director of public relations; T. C. Fetherston, assistant to the director; George Sykes, manager of the Public Relations Department, and W. P. Burglund, assistant manager.

Appointed to head up the advertising departments of the division companies are: Linde Air Products Co., W. Boggs; Carbide and Carbon Chemicals Co., G. B. Moynahan; Electro Metallurgical Co., L. F. Reap, and Haynes Stellite Co., J. Reap.

There will be no change in the advertising departments of Union Carbide's other major division and subsidiary companies.

Dr. McGee said that a review of 20,000 farm accidents in one state showed that the most serious and costly accidents involved the use of ladders, the operation of farm machinery, the operation of tractors and the operation of trucks or automobiles.

"The misuse of chemicals accounted for 1.74% of the accidents in this review . . . a small figure," he said. "When chemicals cause undesirable effects, I find one or more of the following has made the result possible: Ignorance of the dangers involved; faulty skills or equipment; a careless attitude."

"In the use of economic poisons the farmer has the responsibility of avoiding injury to himself, his family and neighbors."

MCA Names New Committee Heads

WASHINGTON—Six new committee chairmen have been appointed by the board of directors of the Manufacturing Chemists Assn., it was announced recently by Gen. John E. Hull, U.S.A. (ret.), president of the association.

The new committee chairmen elected are:

Finance committee, John Fistere, president, Mallinckrodt Chemical Works; program committee, Hans Stauffer, president, Stauffer Chemical Co.; international trade and tariff committee, Richard F. Hansen, as-

sistant to the present, Allied Chemical & Dye Corp.; public relations advisory committee, Emery N. Cleaves, vice president, Celanese Corporation of America; statistical committee, O. V. Tracy, president, Enjay Co., Inc.; water pollution abatement committee, H. L. Jacobs, engineering department, E. I. du Pont de Nemours & Co., Inc.

CONFERENCE SUSPENDED

NEW BRUNSWICK, N.J. — The New Jersey Fertilizer Conference has been suspended this year because of activities to commemorate the 75th anniversary of the New Jersey Agricultural Experiment Station.

SEE
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9 . . .

Better Selling
Richer Sales Fields for Dealers

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DOUBLE POWER**

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FOR FARMERS

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Water-Soluble Double Sulfate
of Potash-Magnesia
 $K_2SO_4 \cdot 2MgSO_4$
22% K_2O - 18% MgO

SULFATE OF POTASH
for the profitable production of
crops sensitive to chlorides

SULFATE OF MAGNESIUM
for high yields and quality on
magnesium-deficient soils

The need for sulfate of magnesium and sulfate of potash for the profitable production of a wide variety of crops in many farming areas is shown by research carried on by many agricultural colleges.

Consistent advertising in farm papers, and on radio and billboards is telling farmers that the most effective way to supply soluble magnesium and potash is to use a quality mixed fertilizer containing *Sul-Po-Mag*. We're building consumer acceptance for your premium grades—so cash in on the growing demand by asking your fertilizer manufacturer for grades containing *Sul-Po-Mag* for use on soils that are low in magnesium and potash. Look for the analysis on the bag . . . **N-P-K.**
Mg



POTASH DIVISION INTERNATIONAL MINERALS & CHEMICAL CORPORATION • GENERAL OFFICES, 36 NORTH WACKER DRIVE, CHICAGO 4, ILL.

**DOUBLE
POWER**

**DOUBLE
VALUE**

Sul-Po-Mag delivers double value, too. It provides the extra ingredients that make your fertilizer a premium quality grade you can sell with pride and confidence. It supplies the extra ingredients that bring farmers many dollars of extra profit for small additional cost.

AT CARLSBAD, NEW MEXICO

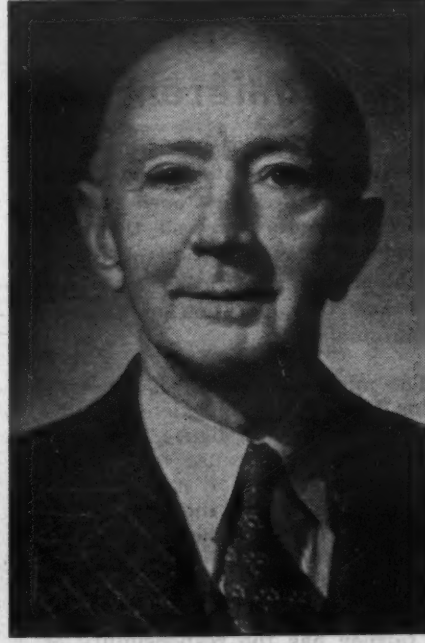
At Carlsbad, New Mexico, the POTASH DIVISION mines and refines these materials for the production of quality fertilizers—
Murates of Potash,
Sulfate of Potash,
Sul-Po-Mag.



Dr. H. B. Mann
API President



Jess D. Romaine
API Vice President



Dr. J. W. Turrentine
API President Emeritus

Launched in 1935

American Potash Institute Looks Back on 20 Years of Achievement

—Continued from Page 1—

agricultural workers and between members and state and federal agricultural authorities.

"(d) To conduct research and experimental work with potash and to disseminate practical potash information to members of the Institute, potash distributors, the fertilizer trade, agricultural advisers, and especially the farmer."

That the use of potash has increased tremendously during the years since 1935 is seen clearly in the accompanying chart. Whereas deliveries that year totaled slightly over 400,000 tons, they dropped considerably under that figure in 1939 to mark the low point in the 20-year record. Imports of the element decreased to almost nil during the World War II years, but reached a new high of over 300,000 tons in 1951. The years since then have seen a decline in imports.

Last year, potash deliveries reached an all-time high of 2½ million tons, most of which were consumed agriculturally. Indications are for increased consumption both for the present fertilizer year and in the years to come.

How much of this increase may be attributable to the efforts of the Institute would be anyone's guess, since the continual rise in use is obviously the result of many factors, economic as well as promotional. Still, the API is undoubtedly a very potent force in bringing about a greater consciousness of the value of potash in crop fertilization and thus the Institute takes a bow in its twentieth year of activity.

The API, with headquarters at Washington, D.C., functions under four categories: agronomic, economic, informational and library. A geographic organization is superimposed on its functional aspects. Five territories, each under the direction of a manager who is responsible for all Institute activities in the area, operate in Atlanta, Ga.; Lafayette, Ind.; San Jose, Cal.; Burlington, Ontario, Canada; and Washington, D.C.

Through the years, the API has worked closely with various groups in uncovering more data on potash and its use. Rather than establishing its own laboratory facilities for investigations, API cooperates with agricultural colleges and state experiment stations in many parts of the nation.

Fellowships have been established in 38 states and provinces during the past 20 years, with some 90 projects being conducted in that time. More than 200 men have participated in these investigations and some \$750,000 has been paid to these institutions

for fellowships and grants, the API reports.

Demonstrations have been a practical means of telling the potash story, with these being conducted in cooperation with the extension services of U.S. Department of Agricul-

ture, the Soil Conservation Service county agents, vocational agricultural teachers and other groups. A total of \$500,000 has been spent in such activities, which, with expenditures for fellowships and grants, brings the grand total to some \$1,250,000.

The Institute has published information on the trade over its entire span of years. In the matter of economics, API has kept the public informed as to current records of potash deliveries and also as to wholesale prices of fertilizer materials and crops.

Through the utilization of public relations, motion pictures, radio and television, as well as direct advertising, the API has continued to make information available. It publishes a semi-technical magazine, "Better Crops with Plant Food," sends out Potash News Letters and maintains a library in Washington, containing over 200,000 bulletins, books, theses and periodicals. This specialized library, devoted mostly to literature on soil fertility, crop production and related subjects.

Heading the Institute, with offices in Washington, is Dr. Harvey B. Mann, long associated with API. Before being advanced to the presidency in 1948, he had served API as southern manager.

Dr. Mann succeeded Dr. J. W. Turrentine, who upon his retirement in 1948, became API president emeritus. Vice president and secretary of API is Jess D. Romaine, Washington, D.C.

Potash producers comprising the Institute are: American Potash and Chemical Corp.; Potash Company of America; United States Potash Co.; Southwest Potash Corp. and Duval Sulphur and Potash Co.

The governing body of the Institute comprises the board of directors, consisting of two representatives from each of the five member companies, and the API president. This board appoints officers, sets the budget and determines matters of policy.

Thirty-one persons comprise the API staff. These include 16 agronomists, 2 editors, 2 librarians and 1 secretarial and clerical employees.

A recent article in API's publication, "Better Crops," summarized the Institute's philosophy as follows:

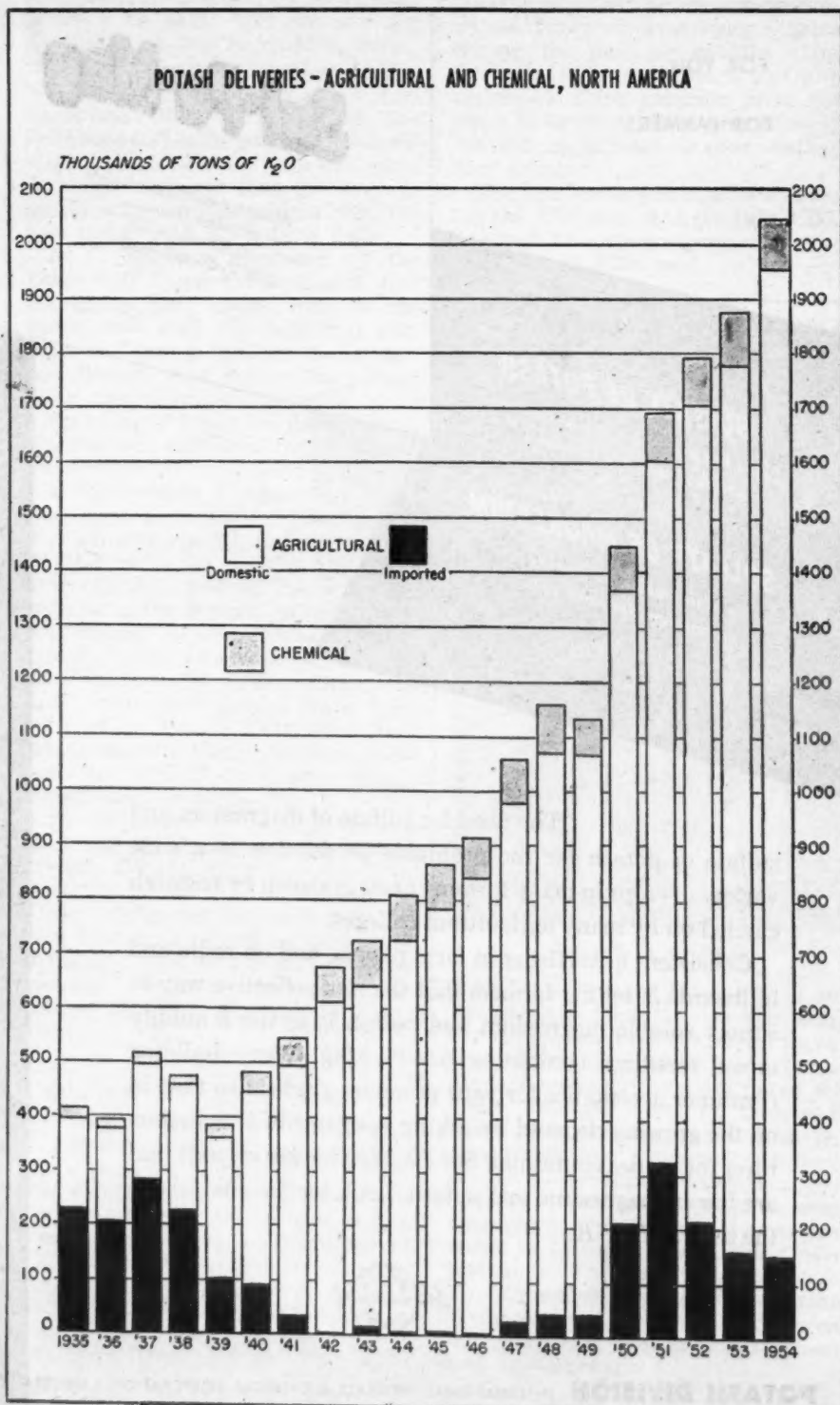
"It is felt whatever success has attended the work of the American Potash Institute is due to the policy of the American potash producers that the use of potash should be on a basis sound and profitable to the farmer. The producers realized that only in this way could their business continue to grow and prosper.

"This policy was laid down in establishing the Institute and has consistently been followed ever since. In this way the confidence of the official agricultural advisory group was gained, and only by following such a course could the Institute have obtained their cooperation, so essential in the success of such a large undertaking."

Speakers Named for Land Use Forum

MANHATTAN, KANSAS — Two speakers have been announced for a land use forum to be held at Kansas State College here Nov. 29-30. Dr. R. V. Olson, head of the Department of Agronomy at Kansas State College and chairman of the committee on arrangements, has announced.

They are Charles E. Kellogg, administrator in charge of the soil survey division of the U.S. Department of Agriculture, and Dr. Firman E. Bear, editor of Soil Science magazine and former chairman of the Soils Department at Rutgers University.



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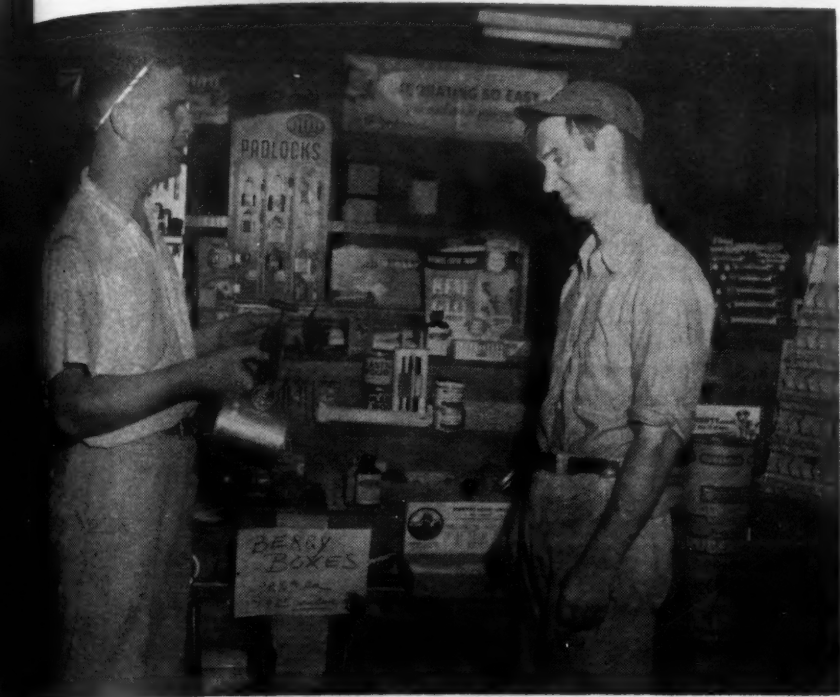
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Better Selling

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A SPECIAL CROPLIFE DEPARTMENT TO HELP RETAILERS IMPROVE MERCHANDISING KNOW-HOW



MASSACHUSETTS DEALER—Francis Burke, left, manager of the Dodge Grain Co., Rockingham Park, Mass., shows and sells a sprayer to a gardener. Note handsome wooden display rack back of the two men. It stands near to wrap counter.

Good Displays Boost Sales For Massachusetts Dealer

By AL. P. NELSON
Croplife Special Writer

Francis Burke, manager of the Dodge Grain Co., Rockingham Park, Mass., believes that every feed customer is also a prospect for fertilizer and insecticide sales. He lays out his displays to test this idea and finds that his sales of fertilizers and pesticides are mounting as a result.

Mr. Burke, who manages this store for his mother, Mrs. Agnes Burke, reports that most feed customers have farms or gardens, and some of them have orchards. In all these cases fertilizers are indicated once or twice a year. He says he sells mostly 10-18-18 and 7-7-7 analysis fertilizers in this area, and that farmers are purchasing more fertilizer this year than last.

An excellent wooden display stand right alongside the store's main wrapping counter has five step up display levels, and on these shelves Mr. Burke is able to show items such as sprayers, insecticides, farm hardware, orchardist supplies and many other items.

"These articles catch the attention of farmers who stand here waiting to

Rutgers Grassland Conference Set Oct. 21

NEW BRUNSWICK, N.J.—Dr. Roy E. Blaser, an authority on pasture and hayland mixtures, will be among speakers at the annual Grassland Farming Conference, Oct. 21, at the College of Agriculture, Rutgers University. Dr. Blaser is a member of the staff of Virginia Polytechnic Institute, and is regarded as a leader in the agronomy field, according to Dr. Milton A. Sprague, chairman of the Rutgers grassland committee.

This year's meeting will deal with fundamental problems of grassland farming, with time allowed for questions and discussion. Speakers in addition to Dr. Blaser will be members of the college staff.

get purchases wrapped, or when they pay a bill," reports Mr. Burke. "We make many impulse sales that way."

An interesting fact about this man's business is that he sells a lot of horse feed to the nearby Rockingham Park race track during the months when the races are on, usually July and August.

"That's good business, too, but we need many lines to cover the twelve month period, and so we push garden and home supplies, fertilizers and related materials," says Mr. Burke. "Our Agrico fertilizer salesman works very closely with us, helping customers get soil samples tested so that they know exactly what their soil needs in the way of nutrients. This service really helps us sell more fertilizer and customers like it."

Insect Threatens Extinction of Elms In New England

BOSTON—New England is going to lose its great elms unless immediate action is taken, Harold L. Ramsey, chief superintendent of the Massachusetts bureau of insect pest control, says.

The Dutch elm beetle has made such inroads that only all-out battle on the beetle this winter can preserve the trees, he said. Mr. Ramsey advised that the pest be controlled by cutting down the trees which it infects and burning the wood immediately.

He said moth superintendents will take samples from all suspect elms. To keep the disease from spreading, trees should be cut down and cut down to the ground before the leaves come out next spring.

STATION ANNIVERSARY

NEW BRUNSWICK, N.J. — The 75th anniversary of the Rutgers University Agricultural Experiment Station will be observed at a dinner here Oct. 20.



SHOP TALK

OVER THE COUNTER

FOR THE DEALER

By EMMET J. HOFFMAN
Croplife Merchandising Editor

Did your last mail bring a brand new display for your store or window from one of your suppliers?

What did you do with it? Did you put it aside to think about later? Or did you put it in the "circular" file behind your chair?

Displays and merchandising aids which help sell products in the store are destined to play a greater role in every dealer's operation. Such displays and merchandising aids, which we may call point-of-sale displays, are valuable silent salesmen.

We're indebted to Dr. Robert W. Roth, sales executive with the Velsicol Chemical Corp. for the following views on point-of-sale displays:

(1) More customers are helping themselves, so the merchandise has to be out where they can pick it up. Displays should help create a market place for display of the merchandise itself.

(2) Self-selection by shoppers means that they must have a choice. So fix up displays that offer a price range, range of sizes, colors, models or whatever is important for the line displayed.

(3) Under self-service conditions, pre-selling becomes more of a factor. The customer will identify the national advertising which is supplemented by the display.

(4) Space is at a premium. Retailers want to get all of their merchandise out where people can see it. If small displays can do the job, use those in preference to large ones.

(5) The help-yourself atmosphere in stores today tends to functional store layout, counters, shelves, etc. Displays should also be functional.

(6) Link displays with packages.

(7) Displays that obstruct the view are not popular.

(8) Complete and compact assortments that make it easy for the shopper to make a choice are preferred. Departmental displays are a good example.

(9) More buying is done on "impulse." (The latest Du Pont summary of "Today's Purchases in Super Markets" indicates that 48% of all super market purchases are made on "impulse" — without any previous plan, and 70.8% of all super market purchases are store decisions—buying decisions made in the store.) Help the "impulse" buying trend along. Special deals, two-for-the-price-of-one promotion, premiums, etc., are gimmicks that make for that extra sale.

(10) Related item displays help increase the sale of two or more items. Related display items are especially valuable during certain seasons, e.g., garden seed and fertilizer; lawn mowers and grass catchers, etc.

(11) With fewer clerks, displays have to do more of the talking. Displays should carry prices prominently.

(12) Make sure the windows will attract attention to the merchandise bargains inside the store. The retailer thinks of his windows in terms of how much store traffic they can generate.

(13) Arrange displays appropriate for the season. Seasonal displays are especially liked for use on walls, over wires and as mobiles.



By RAYMOND ROSSON
County Agent, Washington County, Tenn.

To maintain a standard of living, such as is ours, the average American, including all ages and groups, has but three acres of cropland from which to obtain his food and clothing.

Just suppose all the people in our cities and towns had to produce their needs, and could plant, cultivate and harvest these needs from the three acres.

Suppose all the people had to produce corn, small grain, soybeans, cotton, tobacco, fruits, vegetables and berries on their three acres; how in the world would they raise the dairy cattle, beef cattle, hogs, sheep and poultry on three acres?

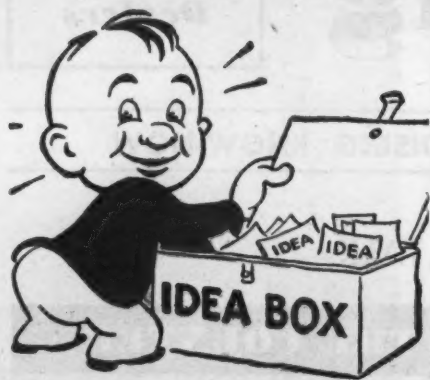
Then too, how would we maintain the productivity? We would need to lime, apply nitrogen, phosphate, potash . . . grow grass and legumes and rotate.

Of course we couldn't do it . . . we have to leave all this to our farmers, to do it for us, and they have done a wonderful job . . .

The interested dealers have been a wonderful help, in advising the farmers, as to the correct amount of plant food as well as holding in check the many insect pests and diseases.

As a matter of fact, all of industry, labor and professional people, as well as farmers, have a very large stake in the land of America . . . they are rightly concerned about our productive soil and water resources . . . they realize as never before, these resources are linked directly to the future prosperity of our Nation.

Are your three acres productive or unproductive? It really makes a lot of difference . . . Don't you think?



What's New...

In Products, Services, Literature

You will find it simple to obtain additional information about the new products, new services and new literature described in this department. Here's all you have to do: (1) Clip out the entire coupon and return address card in the lower outside corner of this page. (2) Circle the number of the item on which you desire more information. Fill in your name, your company's name and your address. (3) Fold the clip-out over double, with the return address portion on the outside. (4) Fasten the two edges together with a staple, cellophane tape or glue, whichever is handiest. (5) Drop in any mail box. That's all you do. We'll pay the postage. You can, of course, use your own envelope or paste the coupon on the back of a government postcard if you prefer.

No. 6320—Films

United States Steel Corp. announces the release of four new films. They are "Barns for Better Dairying," "The Suspension Bridge," "The Waiting Harvest," and "Sinews of the South." The latter film is available only in certain southern states. All films are sound, most of them are in color and available in 16mm, a few in 35mm. Running times vary from 12 to 38 min. Secure more information about these and other films produced by United States Steel by checking No. 6320 on the coupon and mailing it.

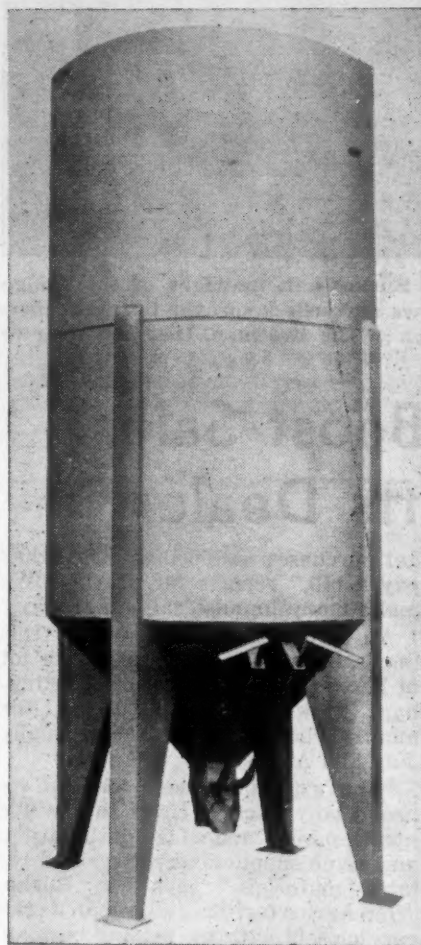
No. 6324—Fertilizer System

Now being demonstrated in various parts of the country is the new Flo-Mix system of fertilizing crops and pastureland. Organized to manufacture applying equipment, supply the basic fertilizer ingredients and to set up distributorships for Flo-Mix is the Flo-Mix Fertilizer Corp. The Flo-Mix principle is to mix the three essential ingredients—nitrogen, potash and phosphorus—on the applying equipment in the field as it is being applied into the ground.

All ingredients are in their liquid form, utilizing anhydrous ammonia, phosphoric acid and potash. A setting of special dials regulates the mixture and determines the proportion of the various ingredients. The manufacturer notes numerous advantages of mixing a complete fertilizer in solution at the point of application and covers these points in an illustrated folder which is available to interested persons. The folder also describes the Flo-Mix equipment, including the Nitri-Flo trailer tank, Phos-Flo and K-Flo tanks and applicators. For more complete information check No. 6324 on the coupon and drop it in the mail.

No. 5299—Bulk Storage Unit

An all-steel bulk storage unit for feed, fertilizer, minerals, rock phosphate and other free-flowing materials has been developed by the Andrews Machine Co. The unit is available in 10- or 25-ton capacities (capacity figured on material weighing 70 lb. per cubic foot.) and is fabricated in one unit on four legs, eliminating any assembly on delivery. The unit has a hopper bottom with a



swing control gate (not a sliding valve) for more effective discharge control. The bin is made of 12-gauge steel with 16-gauge steel used for the top. An 18 in. manhole and cover for loading are located on the top with a ladder leading down the inside for access into the bin. Company officials said the unit serves companies selling in bulk to provide to their customers and manufacturers storing ingredients. Check No. 5299 on the coupon and mail it to secure more information.

No. 6323—Applicating Equipment

The line of anhydrous ammonia applying equipment offered by the Dempster Mill Manufacturing Co. is featured in a new descriptive folder produced by the company. The folder illustrates and describes the various models of Liquijectors and reveals considerable information on the new Dempster Liquijector metering pump. The several types of Liquijectors include those mounted on the new Dempster Model 500 tool carrier and those which can be tractor-mounted. The simplicity of the dial setting and ease of lubrication are claimed to be two major features of the new metering pump. Completely visible and accessible from the outside, the dial can be quickly set without tools. All lubrication points are easily reached and the problem of remote control equip-

ment on the meter has been eliminated by the use of a simple on-clutch system, the literature explains. For a copy of the new booklet and other information check No. 6323 on the coupon and mail it to Croplife.

Also Available

The following items have appeared in the What's New section of recent issues of Croplife. They are reprinted to help keep retail dealers on the regional circulation plan informed of new industry products, literature and services.

No. 6310—Lawn Booklet

"Lawn Culture with Liquid Fertilizers" is the title of a new booklet prepared by Victor Chemical Works. Victor officials said that the booklet is designed to help the dealer develop inquiries from prospective customers and that quantity booklets, covering only the cost of printing, are available. The dealer's name and address may be imprinted on the booklet. According to the Victor announcement concerning the booklet, any concern having tank trucks is a prospect for liquid fertilizer distribution but these firms need guidance in deciding what type of liquid fertilizer solution to offer. Secure more complete details by checking No. 6310 on the coupon and mailing it to Croplife.

No. 6311—Wood Preservative

The Carbolineum Wood Preserving Co. has just printed a new folder of its wood preservative, called by the trade name, "Carbolineum". Section of the folder, available without charge, are devoted to, "What It Is," "How to Use It," "Where to Use It," and "What It Has Done." The product, according to the folder, is a wood stain, wood preservative and termite stopper. No special skill or equipment is needed for application which can be accomplished by brushing, spraying or dipping, according to the folder. Check No. 6311 on the coupon and mail it to this newspaper to secure the folder.

No. 6317—Liming Slide Rule

A slide rule has been devised by the La Motte Chemical Products Co. that can give the liming requirements for any plant, flower, tree, shrub, vegetable or farm crop grown in any type of soil. The plant group slide is positioned opposite the soil acidity reading and the amount of lime required for the best growing condition is read directly from the scale. Alum requirements for alkaline soils are also given. The rule has separate scales for small areas and for farm operations. A free brochure on the soil reaction slide rule is available. Check No. 6317 on the coupon and mail it to secure the brochure.

No. 6313—Applicator

The John Blue Co. is producing a new, trailer-type applicator for the application of nitrogen solutions—the series "20-NS." The new applicator is available with either applicators for underground application or a boom for surface application. The unit comes equipped with the newly developed model "NSF" fully enclosed nitrogen solution pump. The applicator is claimed to be suitable for almost every need and is available with a 14-ft. tool bar for row crop and top dressing or with a 21-ft. boom suitable for broadcast work. Up to

Send me information on the items marked:

- | | |
|--|---|
| <input type="checkbox"/> No. 5280—Bag Closer | <input type="checkbox"/> No. 6313—Applicator |
| <input type="checkbox"/> No. 5299—Storage Unit | <input type="checkbox"/> No. 6314—Sales Aids |
| <input type="checkbox"/> No. 6307—Couplers | <input type="checkbox"/> No. 6315—Imprinting |
| <input type="checkbox"/> No. 6308—Fall Fertilization | <input type="checkbox"/> No. 6316—Bulletin |
| <input type="checkbox"/> No. 6309—Display | <input type="checkbox"/> No. 6317—Liming |
| <input type="checkbox"/> No. 6310—Lawn Booklet | <input type="checkbox"/> No. 6320—Films |
| <input type="checkbox"/> No. 6311—Wood Preservative | <input type="checkbox"/> No. 6323—Applicating Equipment |
| <input type="checkbox"/> No. 6312—Plastic Liner | <input type="checkbox"/> No. 6324—Fertilizer System |

NAME

COMPANY

ADDRESS

CLIP OUT—FOLD OVER ON THIS LINE—FASTEN (STAPLE, TAPE, GLUE)—MAIL

FIRST CLASS
PERMIT No. 2
(Sec. 349,
P. L. & R.)
MINNEAPOLIS,
MINN.

BUSINESS REPLY ENVELOPE

No postage stamp necessary if mailed in the United States

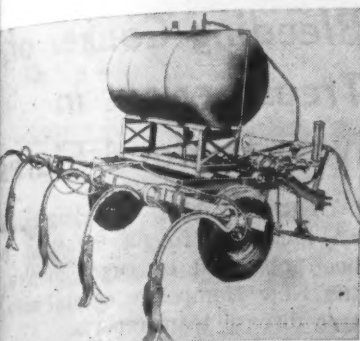
POSTAGE WILL BE PAID BY—

Croplife

P. O. Box 67,

Reader Service Dept.

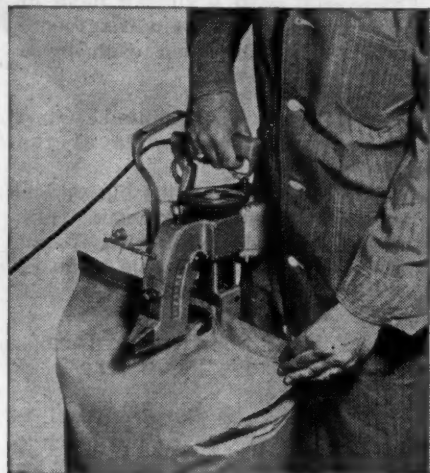
Minneapolis 1, Minn.



Deere & Co. The folder cites the advantages of fall fertilization: Speeds up decay of crop residues, eases the spring work load, avoids the "wet spring" problem and maintains active humus in the soil. The folder urges the customer to make up his nitrogen deficiency "with 45% nitrogen Vitrea." Included is a table showing the pounds of nitrogen needed for different kinds of crop residues. The folder is available without charge. Check No. 6308 on the coupon and mail it to Croplife to receive it.

No. 5280—Portable Bag Closer

The Dave Fischbein Co. has announced a new model portable bag closer and claims that its versatility will allow it to close bags ranging from the lightest to the heaviest textile or paper bag, whether asphalt treated or specially processed, with no change in parts or adjustments. The machine is electrically powered by a 1/12 h.p. motor and weighs 10½ lb., including full cone of thread.



The new model is a refinement of the former model, the company announcement states. The bag closer is said to sew 40 ft. a minute, is light enough to carry with one hand and a light touch on the starting button puts it into action. The unit can also be adapted for stationary use. A suspension unit is provided and a counterweight holds the machine at any desired height. Secure more complete details by checking No. 5280 on the coupon and mailing it.

No. 6307—Couplers

James-Pond-Clark announces its new line of couplers for nitrogen solutions service designed for "rapid handling of nitrogen solutions safely and economically." The firm's "Circle Seal" couplers are claimed to provide high speed filling of tanks from top to bottom. Solutions can be transferred and maintained under pressure and loss of ammonia vapor is prevented, it is claimed. The coupler arrangement consists of a filler valve that is threaded into the tank and a coupler for quick connection between the hose and the filler valve. The filler valve incorporates a check valve unit to permit flow into the tank and automatically shuts off when the coupler is disconnected. Secure more complete details by checking No. 6307 on the coupon and mailing it to Croplife.

No. 6309—Display

Donco, Inc., has designed a 3-way, point-of-sale display featuring its liquid rat and mouse bait and liquid bait dispensers. Dealers may use the tray, containing bait packages, and the display card together or use the card and tray separately. The card has an easel for setting up on counters and in windows. Secure more complete details by checking No. 6309 on the coupon and mailing it to this publication.

What's Been Happening?

This column, a review of news reported in Croplife in recent weeks, is designed to keep retail dealers on the regional circulation plan up to date on industry happenings.

The Federal Food and Drug Administration increased fees for the setting of tolerances for pesticidal chemicals, stating that the former charges did not pay their way. In some categories, the fees were doubled. . . . Stauffer Chemical Co. announced plans to merge with Consolidated Chemical Industries, Inc.

An Indian fertilizer firm, Fertilizers & Chemicals, Ltd., Travancore, India, called for tenders for the supply of manufacturing equipment. Cost of the proposed new plant is \$6 million. . . . California Spray Chemical Corp., Richmond, Cal., announced that it will build a \$1.5 million captan plant in France. Production is scheduled for the fall of 1956.

The Corn Belt Agricultural Ammonia Conference, held at Urbana, Ill., was told that full fertilization could add a billion bushels to midwest corn production. Some 700 persons registered for the meeting.

The Interstate Commerce Commission, in granting train load rates for bulk commodities when shipped by a single shipper to a single consignee, raised speculation in the fertilizer trade as to whether this principle might be applied to the plant food shipments.

Dr. G. L. Bridger, formerly of Iowa State College, has joined the Davison Chemical Division of W. R. Grace & Co. as director of agricultural research. . . . Kenneth A. Keith was named to a new position by Spencer Chemical Co. Formerly connected with the sales department and a market analyst, Mr. Keith was made manager of agricultural chemicals market research.

Southern Nitrogen Co., Inc., a newly organized firm, announced it would build a \$14 million nitrogen plant at Savannah, Ga. Officers of the company include Malcolm Smith, chairman of the board, John R. Riley, president, and George V. Taylor, vice president.

Western States Chemical Corp. will begin manufacture of complete pelleted fertilizers in a new plant now under construction at Nichols, Cal. The company has been organized as a subsidiary jointly owned by Pacific Guano Co., Berkeley, Cal., Triangle Company of Central California, Salinas, Cal., and Wilbur-Ellis Co., San Francisco.

Monsanto Chemical Co., St. Louis, announced a special sales staff within its Organic Chemicals Division to market farm chemicals which the company will market for the first time under its own label in 15 Midwest states. Charles P. Zorsch, associate manager of the division's Agricultural Chemicals Dept., heads up the new farm chemicals section within his department.

National Agricultural Chemicals Assn. registrants for the group's meeting at Spring Lake, N.J., were told that more industry statistics and market facts are needed. W. W. Allen, reelected president of the association, said that it will take 100% more chemicals to produce the 40% more food that the U.S. will require to feed its expanding population in the next 20 years.

A formal safety educational program for customers of the pesticide industry was proposed at the National Agricultural Chemicals Assn. meeting at Spring Lake, N.J. . . . Government researchers, through their constant tests, can prove the effectiveness of agricultural chemicals, thereby creating new demands and stimulating production, NAC registrants were told.

USDA studies revealed that granular-type insecticides show promise toward control of European corn borer, and at the same time present less of a residue problem than do other kinds. . . . The greatest potential for both pesticide and fertilizer sales lies in the north central states, USDA studies indicated. This area produces a major portion of nation's agricultural output.

Flood damage in the northeastern states was calculated in billions. Hurricane "Diane" brought winds and rains that ruined crops, killed livestock and devastated whole areas of New England. Flood insurance was reported to be practically non-existent, thus adding to the difficulties of both farmers and businessmen. . . . A European chafer quarantine was applied to include parts of Connecticut, New York and West Virginia. . . . Grace Chemical Co. named John B. Pitner as head of its Agricultural Service Dept.

Velsicol Corp., Chicago, named C. E. Campbell as its representative in the Washington, D.C. area. . . . Pacific Coast Borax Co. named two additional salesmen: J. S. Gowland and Elmer H. Schmierer. . . . E. I. duPont de Nemours & Co. of Canada also announced sales appointments. Merle E. Ward moves from Montreal to Toronto; L. A. O'Neil, from Ontario to Alberta and British Columbia; and G. H. S. Malcolmson moves from Alberta to London, Ont. One new representative was appointed: A. A. Appleton who will operate in Eastern Ontario and Quebec.

According to a report by the U.S. Bureau of Mines, the phosphate industry faces a good future in both demand and output potentials. A continual rise in use has been noted for many years. . . . The American Society of Agronomy met at Davis, Calif., Aug. 15-19 and heard many papers on crops and soils research. New president elected was Dr. Iver Johnson, Iowa State College.

Don Paarlberg, USDA economist, took initiative to refute talk about a "farm depression." In a speech made in New England, he brought out facts and figures indicating that farmers are not slipping in net income.

Russell B. Stoddard and R. H. F. Dade were named to new positions by Food Machinery and Chemical Corp. Both are associated with the Fairfield Chemical Division. . . . Phytopath group and Ohio Pesticide Institute met at Wooster, Ohio for three-day meeting. . . . H. H. Allen, retired executive of Bemis Bro. Bag Co., died Aug. 13; and Dr. William Hale, farm chemurgy exponent and formerly Dow Chemical Co. executive, died Aug. 8.

No. 6312—Plastic Liner

A booklet concerning the various applications of "JaLiner"—a built-in plastic liner for steel containers—is now available from Jones & Laughlin Steel Corp. The booklet describes the construction features of the liner and the ways in which the polyethylene liner can solve "hard-to-package" problems as well as routine uses. Also listed is a partial guide to the application of polyethylene in liquid and chemical solutions. Secure the booklet by checking No. 6312 on the coupon and dropping it in the mail.

No. 6316—Bulletin

A new "Prentox Information Bulletin" has been published by Prentiss Drug & Chemical Co., Inc. It contains a suggested label outline for Prentox Pyronyl dust concentrate in combination with Rotenone and fungicides. Copies are available upon request. Check No. 6316 on the coupon and drop it in the mail.

No. 6314—Sales Aids

Available from the Velsicol Corp. are three merchandising aids on household and garden insect control with chlordane. They are: Four-color, true-to-life pictures of an ant, carpet beetle, chigger, clothes moth, silverfish, spider, mosquito, roach and white grub (Japanese beetle larvae) designed for store display; a 12-page chlordane garden booklet with tips on garden practices; and a 16-page booklet entitled the Chlordane Household Insect Folder, which points out the key "kill zone" points in the home and how to apply the product. The merchandising aids may be obtained without charge by checking No. 6314 on the coupon, clipping and mailing it to Croplife.

No. 6315—Label Imprinting

Imprinting variable data such as color, batch number, content, etc., directly on lithographed or preprinted cans or other cylindrical containers can now be done with a new machine designed by the Markem Machine Co. The new machine is claimed to permit imprinting specific legend in quantities as required, eliminating paper labels. Features claimed for the model 70AF machine are: Quick adjustment for marking cans ranging in size from 1/32 to 1 gal.; operating speed up to 1,500 imprints per hour; maximum imprint area of 2" x 6". Secure more complete details by checking No. 6315 on the coupon and dropping it in the mail.

No. 6308—Fall Fertilization

A new folder, "Fall Fertilization with Vitrea," has been published by the Grand River Chemical Division,



Rotund, almost bald Oscar Schoenfeld laid down his pencil and heaved a sigh of relief. "Golly, we made it!" he gasped. "There is just enough money in the bank to pay all the bills that can be discounted, and there's just enough left to meet the payroll Saturday."

"Good," remarked plumpish Tillie Mason, the bookkeeper. "It's always nice to get paid on time."

"Well, we would not have made it if I hadn't kept Pat after those delinquent accounts," snapped Oscar. "I believe in collection from a customer for an old bill before you sell him something else."

"Oh you know Mr. McGillicuddy," smiled Tillie. "He's always got his mind on sales. And you have yours on costs."

"That's it," Oscar growled. "I'm the one who sits on the money bags—when there is any money. I'm gettin' tired of it. I wake up at night thinking Pat is trying to spend all the company's money foolishly."

At this moment, lanky Pat McGillicuddy came in. He was whistling a gay Irish tune, which he always did when in good spirits. Oscar recognized this fact. He also knew that when Pat whistled he was in a spending mood. His lips thinned as he braced to meet the assault.

"Well," asked Oscar grimly, as Pat sat down at his desk, "how much

money do you want to spend this time?"

Pat's blue eyes widened. "Spend! How in the world did you know what I had in mind?"

"I know you like a book," Oscar came back rapidly, "a book that has been opened too many times. Whatever it is you want to spend, we can't do it. We're busted—that is, unless you want to go without getting paid tomorrow."

"I've got to get paid," Pat said. "I've got a lot of bills to pay. But my idea won't cost much. Less than \$100 I think. And we should build lots of store traffic, good will and sales through it."

Oscar slapped his right hand to his broad forehead. "\$100!" he exclaimed. "Why that's as much as we get discounting the month's bills. No, we can't spend another cent."

"But this will be a dandy promotion."

"If you talk anymore about it," Oscar threatened, "I will get out my little book. The one that tells how much each of your promotions cost. You've flopped on a lot of them."

"Yes, but some paid off handsomely," Pat said defensively. "That's a chance you've got to take in business. You can't hit home runs all the time. In baseball the man who hits .300 is considered a success, mind you."

"This is not baseball," Oscar said logically. "And our margin on fertilizer is around 17%. You can't bat that around much."

Pat sighed. "Oscar, you take such a discouraging view of everything. You haven't even heard my idea."

"I've heard too many of them," Oscar said flatly, shuffling some papers. "They all cost too much."

"This one is a natural," Pat said, working up a little more enthusiasm. "We want case records of how much fertilizer farmers use per acre and how much increased crops they get. Such records help us sell more fertilizer."

"Cash or credit?" Oscar asked coldly.

Pat ignored the remark. "I thought that we could run a little contest that would help us sell more fertilizer," he said. "For example, we could offer a prize to the farmer who got the biggest yield of corn in the trade area, but to win the prize he would have to give us some samples of that corn and a list of how much fertilizer he used per acre to get that corn crop and the analysis of it."

"How will that sell fertilizer for us?" Oscar asked.

"Wait a minute," Pat said. "I have more. On the same basis we could offer a cash prize to the farmers who raised the highest yielding barley, oats, wheat, potatoes and tomatoes—all crops grown here, provided they give us the same information."

"Huh, how big should those prizes be?" Oscar asked.

"About \$10 each, and for six classifications, that would mean about \$60. Farmers are proud of what they raise. I think we'd have some fine records to use."

"How?"

Pat sighed again. Oscar was always full of doubting questions.

"Well, when we'd try to sell fertilizer to a farmer this fall and spring for corn land, we'd show what results our prize winner got and how much fertilizer he used. That would convince a lot of prospects that maybe they had better fertilize heavier, too. That would be specific selling on our part."

"I know you won't give me any peace until you try this idea," Oscar said with a sudden flash of rare inspiration, "so I will agree to it, if you'll cut down each prize to \$5."

Pat was very disappointed. "Oh, it will hardly be worthwhile at that price," he said.

"Five dollars is plenty big enough for some farmers," Oscar said. "Minnie and I can do a lot with \$5, and other people should be able to do the same." This last remark with emphasis.

"Ten dollars would make farmers sit up and take notice, Oscar," said Pat once more.

Oscar shook his head. "We'll be lucky to get the \$5 to pay each of the six prize winners if you don't get out and get those collections in. Five dollars it is and not one cent more."

"Well, all right, then," Pat said. "We'll try it your way this time. But I have my doubts."

Oscar could hardly hide a smile as he went back to his figuring. "Ach, maybe I've found a new way to tone him down," he said. "I won't say no all the time, only about 75% of the time. The other 25% I'll cut his requests in half, and maybe I'll get by with it. Maybe it pays to give in my way once in a while. Pat will never get wise."

Vigorous Sales Policy Pays Off for Connecticut Firm

The Deep River (Conn.) Farm Supply has three fertilizer and feed salesmen. This may seem like a lot of salesmen for a small firm, but it happens that the three—Charles Strodt, Anthony Sikorski and James K. Dudley—are owners of the company, too. So they divide their executive duties to enable all three to do a lot of selling each week.

This vigorous sales policy has helped the three owners raise the annual volume of business considerably. When they took over the firm a couple of years ago, it was tottering, but vigorous action has made it healthy again.

The firm sells quite a bit of fertilizer in its area, with farmers buying 6-8-8 for potatoes, 5-10-10 for corn and 7-7-7 for pastures. The firm also pushes pesticide sales.

The store has a couple of feed routes, too, which bring the management into contact with many farmers. Mr. Sikorski and Mr. Dudley take turns at selling and delivery, and when they get a chance they mention fertilizers and insecticides to farmers.

Bleeding Canker of Trees Serious in New England States

DURHAM, N.H.—Bleeding canker, an incurable fungus infection, has been observed on sugar maples in the New Hampshire coastal area, tree disease team reports.

Dr. John R. Hansbrough of the Northeast Forest Experiment Station, U.S. Forest Service, Upper Darby, Pa., and Dr. Alma M. Waterman of the Forest and Insect Disease Laboratory, New Haven, Conn., examined dead and dying maples at Rye Beach and said it was uncertain that the disease would spread to the maple sugar producing areas of the state.

Bleeding canker seldom reaches epidemic proportions and is not considered a serious threat to large forest areas, it was pointed out.

Tests are being conducted at the University of New Hampshire's pathology laboratory to determine whether or not bleeding canker is the cause of the outbreak in Portsmouth, Exeter, Durham, Rye and in Maine and Massachusetts.

While bleeding canker attacks many other species, Dr. Hansbrough said, only sugar maples have been found infected. Dark brown water spots from a half inch to several inches in size on the bark are one of the symptoms. Vertical cracks several feet long in extreme cases are particularly noticeable on smooth-barked trees in spring.

Punctured water spots emit a reddish brown watery fluid. Small vigorous maples under 10 in. in diameter appear to be most susceptible. The disease girdles some trees.

The bleeding canker fungus is carried through soil by water and lives throughout the system of the tree it attacks. Cutting out diseased portions does not control its progress, Dr. Waterman said. Diseased trees should be cut down and burned, although spread of the fungus is possible because the fungus may live on in the soil.

The tree experts came to the state at the request of extension forester K. E. Barraclough. Extension foresters and state entomology employees are scouting New Hampshire forests for other possible outbreaks.

Boron Deficiency Shows Up in Corn

Some of the barren stalks and blank cobs that appear in corn may be a result of boron deficiency. Corn doesn't need very much boron, but must have some throughout the season, according to recent research by Kermit Berger, Ervin Zube, and Raymond Wengel, Jr., University of Wisconsin soils research workers.

They grew plants in the greenhouse with various amounts of boron in a nutrient solution and for various lengths of time. Kernels developed only at the highest concentration of boron—.25 part per million—supplied to the corn until maturity. When boron was supplied for only one or two months, only blank ears or barren stalks developed.

In field tests, the research workers were able to correct blank stalks and ears by side-dressing with boron. They got yield increases of as much as 30 bu. per acre by 15 lb. applications of borax.

Fertilizer Use Helps Dairyman Win Green Pastures Award

DURHAM, N.H.—The "zero" pasture program of Milan dairyman Clifton Flint captured the 1955 New Hampshire Green Pastures competition.

Mr. Flint's forage-producing and management set-up was judged best among some 300 farms entered in the state contest, the ninth conducted in the Granite State, the eighth for New England.

Second place was awarded to Stoddard Brothers, North Haverhill and third to Charles Sullivan, Cornish Flats.

The Flint zero pasture operation, relatively new on the New Hampshire scene, involves barn lot feeding of all the green forage consumed by the cows during the pasture season, according to Gardner Smith, Coos County agent, Lancaster. Mr. Flint has 38 head of Holsteins and 23 young stock. He handles with the help of a hired man the total farm acreage of 281 acres of which 100 are tillable.

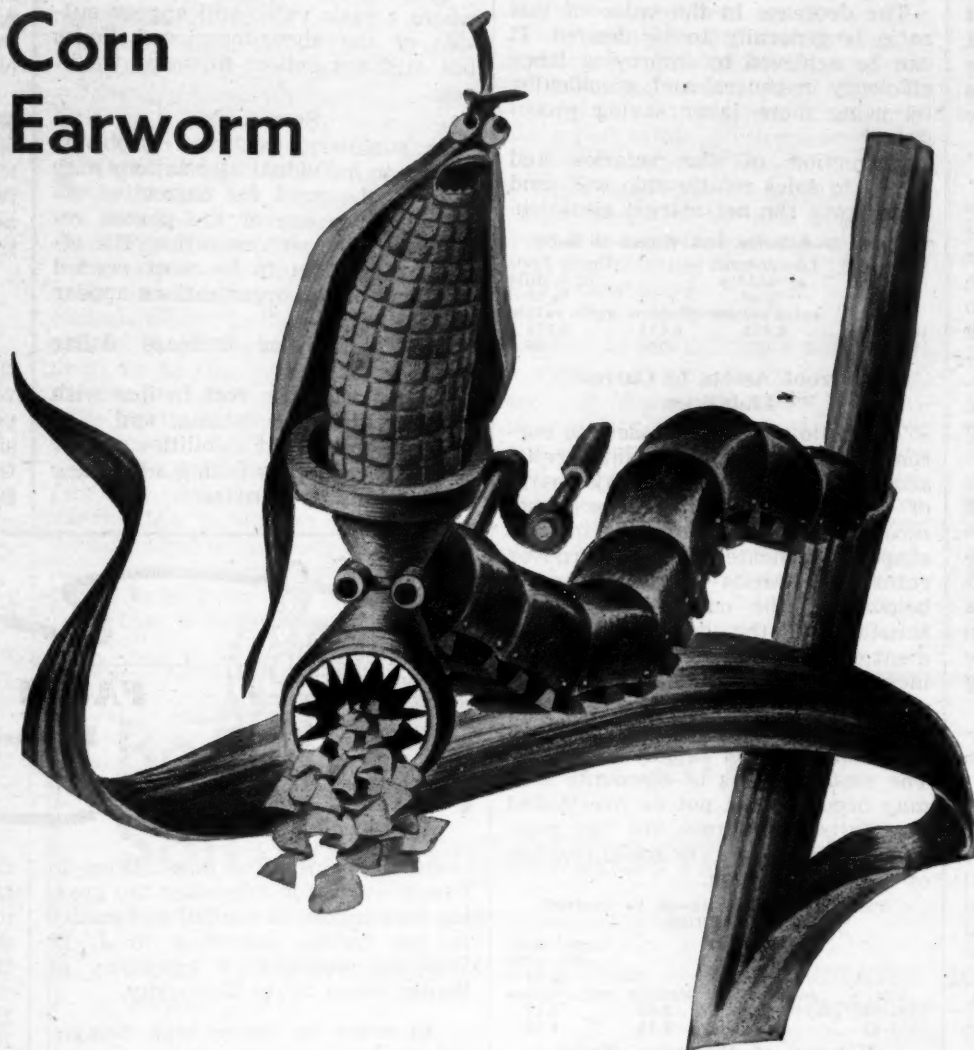
The Milan farmer applied 19 tons of fertilizer and 55 tons of lime to his land this year and made 250 tons of hay and 190 tons of grass silage. Grain to milk ratio was one to 4.28 in winter and one to 8.4 in summer and Flint produced 360,000 pounds of milk last year.

The Stoddard Brothers' farm, managed by Gerald Stoddard, supports 55 Holstein milkers, 43 young stock and a bull on 340 acres of which 100 are tillable. The Stoddards made 75 tons of hay, 150 of grass silage and had 20 acres of corn silage.

BUG OF THE WEEK

Mr. Dealer—Cut out this page for your bulletin board

Corn Earworm



How to Identify

In the larval stage, the insect is in the form of a worm about an inch in length, varying in color from brownish to greenish. It is the larva that is found within the ear of corn.

Damage Done by Earworm

When small, the larvae feed downward, following the silks into the ear tip. Serious damage to the ear frequently results from their feeding and from the fermentation or molds that follow. The insect also attacks cotton as a bollworm, but cotton is not its preferred food. Its total damage to both cotton and corn runs into many thousands of dollars annually.

Habits of Earworm

The moth lays its eggs usually on the corn silks and these eggs hatch in from 2 to 8 days. As the larvae grow within the ear, they leave the ear, enter the soil and enter their pupal stage. From this, the moth emerges. The development from egg to adult takes about 30 days in midsummer. Pupae produced in late summer or in the fall, may pass the winter in the soil and become moths the following spring or early summer. Usually two generations are developed annually in the north, but in the south there may be five generations or more.

Control of Corn Earworm

Sweet corn can be protected by spraying an emulsion comprising 3 qt. 25% DDT emulsifiable concentrate and 2.5 gal. white mineral oil with enough water to make 25 gal. (In smaller quantities, one fourth pt. DDT emulsifiable concentrate and three fourths pt. mineral oil with water to make a single gallon of spray.) Timing is of great importance since the pest must be reached by the insecticide before the worm gets inside the ear. A suggested schedule is offered by USDA as follows: Apply spray to the ears one day after silks appear in the field and again two days later. A third application two days after the second, usually increases the control. Only enough of the spray should be used to wet the silks. Approximately 25 gal. of spray is enough for a single acre of corn; a gallon will take care of a plot about 17 by 100 ft. A spray similarly prepared, says USDA, can be applied to the entire plant to reduce "budworm" damage by the earworm to sweet corn before tasseling and silking. This spray should include only 1 1/4 gal. mineral oil in a 25-gal. lot. For application on a commercial scale, USDA suggests use of a high-clearance power sprayer with hollow-cone nozzles adjusted to give adequate but not excessive coverage of the ears. Toxaphene dusts and sprays are recommended for control of the corn earworm on crops other than sweet corn.

Drawing of corn earworm furnished Croplife through courtesy of E. I. du Pont de Nemours & Co., Inc., Wilmington, Del.

Previous "Bug of the Week" features are being reprinted in attractive 24-page booklet, priced at 25¢ single copies; reduced rates in quantities. Write Croplife Reprint Dept., Box 67, Minneapolis 1, Minn.

Management Ratios for Elevator and Farm Supply Organizations, 1951-53

EDITOR'S NOTE: The accompanying article by Dr. H. E. Larzelere, department of agricultural economics, Michigan State College, East Lansing, is reprinted from the Quarterly Bulletin of the Michigan agricultural experiment station, Michigan State College. It indicates current economic trends for elevators and farm supply firms and suggests some corrective efforts for those businesses whose various ratios show a need for them.

As the management of a business concern undertakes to examine their past financial record and to plan their future operations, one of the most frequent questions is, "How do we stand today as compared with other similar firms?" A second frequent question is, "Are we proceeding on a sound basis, or are there some weaknesses that are creeping up on us?"

The annual audit report of an association is often the only source of information on such questions. However, although very important, these reports are frequently so complicated in their usual form that it is difficult for the management of an organization to interpret and use the information as a basis for making important decisions.

Special Bulletin 380 of the Michigan Agricultural Experiment Station, "Ratios as Measuring Sticks for Elevator and Farm Supply Organizations," indicated some of the norms and the techniques that management could use in focusing the financial information of their association so that the foregoing questions could be answered more readily. The bulletin presented figures that were especially applicable to the years 1947-50. There is interest and frequent concern over the most recent financial operations of the elevator and farm supply organizations. This report brings up to date the norms set forth in the above-mentioned bulletin. They have been interested in knowing, first, whether this tendency existed in most concerns of this type or, second, whether their own organization had encountered some difficulties peculiar to its own situation.

An analysis of the ratios from the 1952-53 financial statements of 33 associations, compared with those of the previous year for the same organizations, indicates that most organizations apparently need to correct the following conditions:

1. Net Margin to Sales—a downward direction in the ratio values.
2. Salaries and Wages to Sales—an upward direction in ratio values.
3. Current Assets to Current Liabilities—a downward direction in ratio values.
4. Volume of Business—a downward direction in the dollar volume.

Net Margin to Sales

Table 1 indicates that a reduction has occurred in the cushion between receipts and expenditures. Larger cushions are essential if organizations wish to achieve financial stability by building and maintaining adequate capital reserves and retiring indebtedness.

Year	Lower limit of middle % of ratio values	Median ratio values	Upper limit of middle % of ratio values
1951-52	0.014	0.026	0.043
1952-53	0.004	0.016	0.030

Salaries and Wages to Sales

Table 2 indicates a reduction in the economic efficiency of labor. This situation may have resulted from one or both of the following conditions:

1. A decrease in unit value of products handled without a proportionate decrease in labor costs.
2. A reduction in the physical efficiency of labor or a smaller number of physical units being handled per man.

The decrease in the value of this ratio is generally to be desired. It can be achieved by improving labor efficiency in general and, specifically, by using more labor saving procedures.

Correction of the salaries and wages to sales relationship will tend to improve the net margin situation.

Year	Lower limit of middle % of ratio values	Median ratio values	Upper limit of middle % of ratio values
1951-52	0.051	0.063	0.074
1952-53	0.057	0.066	0.079

Current Assets to Current Liabilities

The ratio of current assets to current liabilities cannot be interpreted accurately unless the two major parts of the current assets, the accounts receivable and inventory, are in good shape as indicated by the turnover ratios (see ratios number 6 and 7 below). If the current assets are satisfactory, the downward movement of this ratio signifies a relative increase in current liabilities. This situation, in turn, may mean that bills owed by the organizations were not being paid as rapidly as before. The resulting loss of discounts that may occur should not be overlooked in efforts to improve the net margin and the general financial position of the organization.

Table 3—Current Assets to Current Liabilities

Year	Lower limit of middle % of sales values	Median ratio values	Upper limit of middle % of ratio values
1951-52	1.79	2.65	4.77
1952-53	1.45	2.56	4.08

Volume of Business—Total Sales

Table 4 indicates that most associations showed a downward movement in their dollar sales volume. Such a situation may be due entirely to price changes of commodities handled without a change in the physical volume handled. In any case, maintenance of at least the same dollar volume is important because many cost items are difficult to reduce. For example, in respect to the ratio of salaries and wages to sales, a decline in sales volume often is not accompanied by a comparable decrease in salaries and wages paid. If sales volume in dollars cannot be maintained it is imperative that the total salaries and wages be adjusted downward if net margins are to be maintained.

Year	Lower limit of middle % of sales values	Median ratio values	Upper limit of middle % of ratio values
1951-52	\$286,975	\$599,698	\$883,259
1952-53	263,799	541,431	795,818

Concentration on the correction of some of these changes that prevailed in most of the associations may not be enough for every individual organization. The management can well afford to investigate to see whether additional corrective changes in policies or practices should be undertaken in case the ratio values of a particular organization are as follows:

1. If the net margin to sales ratio is less than 0.004.
2. If the operating expenses to sales ratio is above 0.14.
3. If the salaries and wages to sales ratio is above 0.08.
4. If the gross margin to sales ratio is below 0.10 or above 0.12.
5. If the other income to sales ratio is below 0.02 or above 0.04.

6. If the cost of goods sold to inventory ratio is below 6.65.

7. If the sales to accounts receivable ratio is below 22.55.

8. If the current assets to current liabilities ratio is below 1.45 or above 4.08.

9. If the equities to total assets ratio is below .54.

10. If the sales to fixed assets ratio is below 9.22 or above 17.97.

11. If the sales to total assets ratio is below 3.03.

There will be some exceptions where a ratio value will appear outside of the above-mentioned limits but still not reflect financial weakness.

Summary

In summary, pertinent problems arising in individual associations may suggest the need for corrective efforts in any one of the phases reflected by the various ratios. The efforts that seem to be most needed by many of the organizations appear to be:

1. Maintain or increase dollar volume;
2. Adjust labor cost in line with declines in dollar volume; and
3. Keep current liabilities as low as possible, thereby taking advantage of discounts on purchases.



FARM SERVICE DATA

Extension Station Reports

Small grains offer possibilities in Pennsylvania for extending the grazing season later in the fall and earlier in the spring, according to J. B. Washko, professor of agronomy at Pennsylvania State University.

In order to insure high forage production from small grains ample plant nutrients must be available, with nitrogen, in particular, receiving attention, he says.

Fertilizer applications at time of seeding of 400 to 600 lb. per acre of 10-10-10 or its equivalent have been found necessary.

Application of 40 lb. nitrogen per acre as a spring top-dressing is necessary to stimulate forage growth if spring grazing is to be practiced. If small grains are used both for grazing and grain production, added spring nitrogen is required in order to minimize reductions in grain yield. The nutritive value of forage from liberally fertilized small grain was found to be high. It ranged from 25 to 35% crude protein on a moisture-free basis in the fall, and from 18 to 27% in the spring.

★

Dr. James B. Kring, entomologist at the Connecticut Agricultural Experiment Station, reports in a station circular (193) on his study of the potato flea-beetle problem at Windsor, Windsorville and Mt. Carmel.

In brief, he found that several other insecticides, alone or in combination, gave effective control of potato flea beetles where DDT was no longer effective. DDT at double the previously effective concentration gave unsatisfactory control in two of the three areas. Dieldrin alone or combined with chlordane gave the best protection. A detailed report of the materials and results in the 1953-54 tests is given in the circular.

Information is also presented on the effects of these materials on aphid populations, on infestation by the European corn borer and on yield of potatoes.

For a free copy of this research

1954 Fungicide Tests Made Available by Phytopaths

ITHACA, N.Y. — "Results of 1954 Fungicide Tests" are now available in book form, according to an announcement by the American Phytopathological Society, sponsor of the publication. This information, formerly provided through a supplement to the USDA's Plant Disease Report of the Plant Disease, Epidemics and Identification Section, is now available in a bound volume from Dr. A. Roberts, Department of Plant Pathology, Cornell University, Ithaca, N.Y. Cost is a dollar.

The temporary advisory committee on collecting and disseminating data on new fungicide tests of the American Phytopathological Society arranged for the publication of data and continuation of the program in the future.

WATER STUDY

FAYETTEVILLE, ARK. — Walter H. Rockefeller has given the University of Arkansas Agricultural Experiment Station \$6,000 to make possible a continuation of research on the recharging of underground water supplies in eastern Arkansas.

circular, of interest primarily to potato growers, to those concerned with insecticide resistance, and to those who manufacture or distribute insecticides, write The Connecticut Agricultural Experiment Station, Box 1106, New Haven. Ask for Circular 193, "Control of DDT-Resistant Potato Flea Beetles."

★

It would be a good idea to check on some of the wheat in storage now points out C. Frank Bishop, extension plant pathologist and entomologist at West Virginia University.

He advises farmers: Take 1-quart samples at random from the bin and then examine the sample for the presence of insects. If one or more rice weevils are found, or as many as five other types of insects are found, the wheat should probably be fumigated.

★

Fruit growers, both backyard gardeners and commercial growers, who take lightly the problem of orchard mice, may be hit hard by the rodents this year, according to Wesley R. Jones, Mammal Control Supervisor with the U.S. Fish and Wildlife Service at the University of Massachusetts, Amherst.

The amount of serious damage to the trees depends on the action taken during the next two months. Mr. Jones points out. Occasionally Mr. Jones says, growers may let their baiting programs slip, and not suffer a great deal of damage during that year. But if they let go a second year, the result is often apparent in the rows of glistening barkless trees, visible at about the time of the February thaw.

The best orchard mouse control in small orchards, Mr. Jones says, is brought about by hand-baiting. This means placing poisoned bait directly in natural mouse runways only.

For the larger orchards, however, hand-baiting is inadvisable because of the amount of time it consumes.

MONEY WELL SPENT

\$20 Million Plowed Back Into Massachusetts Soil in 20 Years

BOSTON—More than \$10,000,000 has been plowed into the soil of Massachusetts in the past 20 years by the federal government, and during that period Bay State farmers have plowed a like amount underground in the shape of lime, fertilizer and drainage tile, it was revealed at the meeting of local, county and state committees of the Agricultural Stabilization and Conservation Service.

The meeting, first statewide one, was held at Holden, Mass., by the Agricultural Stabilization and Conservation Service. The meeting was held at Holden, Mass., by the Agricultural Stabilization and Conservation Service.

Harold F. Thompson, former Seekonk farmer, who now is the state administrator for the program, said that the more than \$20,000,000 plowed into the Bay State soils during the past 20 years has been "money well spent."

"We're maintaining our soil in good condition where these conservation practices are being applied and perhaps even improving it," he said. "Like it or not, we still have to face the fact that the soil is the base of our entire economy. If you want an example of what happens to nations that neglect their soil, you have only to look at Greece."

"Greece and other Near East nations are just barely able to scratch their way along now. Their basic deficiency is a used-up soil. Let's hope and pray that such a tragedy never falls on this nation."

The committeemen, elected by their fellow farmers at the community level, were addressed by state and federal agricultural officials.

They learned that flood ravaged farmers, who were severely pounded by Hurricane Diane, can look for outright gifts of up to \$3,000 from the federal government to assist them in removing debris and filling in gullies caused by the floods.

Market gardeners, excluded from ASC payments during the past several years, are now eligible for the brand new ASC flood relief program.

Even those who spend most of their lives in rented apartments are now eligible for ASC cash payments as long as they own a minimum of only one acre of woodland. The federal government, subject to the approval of the respective county ASC committees, is now willing to pay up to \$25 an acre, and up to 50% of the actual cost for planting now vacant acres to trees. It will also give \$12.50 per acre for timber stand improvement work. This includes weeding, thinning and pruning work.

The U.S. Department of Agriculture is increasingly reluctant now to spend public money on improving soils at the fringes of urban areas.

However, the final determination as to whether or not the government will render financial assistance to farmers at the edges of towns, of which there are many in Middlesex county, still rests with the county committees, all shirt-sleeved farmers who understand the problems of farmers in the path of real estate developments as well as anybody.

State Administrator Thompson said: "These ASC committees, working at the local level and encouraging farmers to keep their farm soil in top condition, are certainly fending off the day of reckoning that will come when, as, and if the nation's soil is used up."

A free economy for farmers will

probably not be possible for "many, many years," a vice president of the Commodity Credit Corp. told the committeemen at the Holden meeting.

Walter C. Berger, whose department administers the farm price support program, added: "I'm not even sure that it would be desirable."

"Every citizen, whether he or she lives on a farm or not, is a stockholder in the Commodity Credit Corp., the second largest corporation in the world," Mr. Berger said. "We are financed by Congress to the tune of \$12,000,000,000. There's one New York bank that's bigger than us."

He said the government now owns enough wheat to fill a freight train extending all the way from Guatemala to Alaska; enough corn to fill another train running all the way from the tip of Florida to the tip-end of Maine.

He declared that in spite of the fact that probably more than half of the world's population is subsisting on considerably less than an adequate diet, "we're having a hard time even trying to give the stuff away."

Another federal official, Harris W.

Soule, CCC northeast area director, who administers the program in the 12 northeastern states, warned the committeemen to administer government payments for soil holding and improvement practices, that they must use caution in approving government payments to farms that may, during the next several years, be included in real estate developments.

"Some of Massachusetts' best agricultural land," he said, "is on the fringes of urban centers and will very likely be swallowed up by housing developments during the next five or six years. I very much question the wisdom of plowing government funds into land that is going to be used for a real estate development during the next few years."

Good farm land, he added, is being "swallowed" up by real estate developers at "just about the same rate we are clearing land for farming developments."

JOINS CONNECTICUT STATION

NEW HAVEN, CONN. — Appointment of Walter H. Bryan, a native of Harrisburg, Pa., to the staff of the Department of Plant Pathology and Botany at the Connecticut Agricultural Experiment Station has been announced by Dr. James G. Horsfall, director. Mr. Bryan comes to Connecticut from the University of Wisconsin, where he has held a Wisconsin Alumni Research assistantship.

Industry Men Praise Work of State Colleges

READING, PA.—A. A. Schultz of the Reading Bone Fertilizer Co., and W. G. Hawthorne, general manager of the Farmers Fertilizer Works, Elizabethtown, Pa., told a Croplife reporter recently that they thought the state agricultural colleges in general are the best salesmen of fertilizer that the industry has.

"The agricultural scientists are doing their best to help the farmer get the greatest production he can per acre, and they assign a vital role in this program to good fertilizer," stated Mr. Schultz.

"The scientists are continually calling the attention of the farmer to the part good fertilizer plays in raising crops. They are doing a real job."

Mr. Schultz and Mr. Hawthorne also say that the industry in their part of the country is pushing fall fertilization more than before, and that the idea seems to be taking hold in rural communities. Again, in such a program, the work of the agricultural land grant colleges, is vital. Farmers, in general, say these fertilizer men, are becoming aware of the value of regular soil analysis.

Books on Soils and Soil Management

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D. W. Thorne and H. B. Peterson, Department of Agronomy, Utah State Agricultural College. Dr. Thorne is also Chief of Soils and Fertilizer Research Branch, Tennessee Valley Authority.

An outstanding text dealing with the problems of irrigated regions. In addition to the chapters dealing with irrigation, the salt problem, reclamation of saline and alkali soils, there are chapters on maintaining organic matter in soil, minerals and plant growth, fertilizer elements and fertilizer materials, using fertilizers, soil management for general field crops, for fruit, vegetable and specialty crops \$6.50

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W. B. Andrews

A new book, with special reference to Anhydrous Ammonia and other sources of nitrogen in liquid form. Deals also with legumes as a source of soil nitrogen, and the uncertainty of green manures; the response of soil to phosphorus, potash and soda; the effect of fertilizers on yield and feeding value of hay and pasture crops. 468 pages, 19 chapters, 89 illustrations \$4.50

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Donald P. Hopkins

The theme of the book is the necessity of chemical fertilizers to maintain the fertility of the soil. It has concise information on which soil conditions and which chemical fertilizers are most suited for special crops and vegetables. Space is devoted to cereal crops, barley, wheat, oats and rye; to roots and tubers, sugar beets, potatoes, carrots, parsnips and turnips; to vegetable crops, beans, peas, alfalfa, lupines; to grasses and clovers; to onions, flax, kale, cabbages, lettuce, tomatoes, celery, cauliflower and fruits. It clarifies the relationship of manures, compost and chemicals as fertilizers and points out how chemicals should be used to obtain the best results. Its philosophical soundness and logic should do much to avert the confusion of thought introduced by the advocates of compost and manure as against the use of chemical fertilizers \$8.50

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More than 11,000 DEALERS, 1,700 custom operators and 1,000 farm advisers receive the issue of Croplife specifically edited for their regional crop-area once each four weeks. The mailing schedule for this group covers consecutively four geographic regions of the United States (see map) with one of four regional dealer issues: The Northeast Dealer Issue, the South Dealer Issue, the Midwest Dealer Issue or the West Dealer Issue. Each week Croplife goes to more than 3,500 dealers, distributors and farm advisers in one of these four regional crop-areas.

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In addition to its national coverage, Croplife offers a selective regional circulation plan in these crop-areas

tion developed along crop-area lines offers advertisers the *most flexible medium possible*, designed to give "direct-hit" coverage for specific messages without the higher cost of a larger-than-necessary circulation on an inflexible nationwide basis. Advertisers interested in reaching dealers in more than one region can do so easily and economically with a selective advertising schedule.

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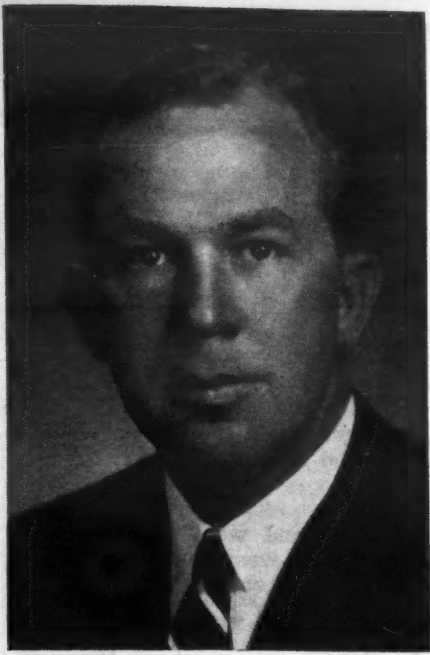
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John E. Fletcher



L. Ralph Boynton

S. Potash Co. Appoints Two Sales Staff

NEW YORK—United States Potash has announced the appointments of two men to its sales staff. They are John E. Fletcher, who was named assistant sales manager and L. Ralph Boynton, who has been made Southwestern sales manager. Both appointments became effective as of October 1, according to Dean R. Gidney, vice president, who made the announcement. Mr. Fletcher joined USP in 1949 and has served as sales representative in the southeastern territory, and most recently in the midwestern territory. He is a graduate of the Uni-

versity of Michigan and served four years with the U.S. Air Force during World War II. He attained the rank of captain.

Mr. Fletcher will work out of the New York office, but during the next year expects to spend a considerable amount of time training his successor in the midwestern area.

Mr. Boynton will continue to operate from the Atlanta office where he has been manager since September, 1945. Mr. Boynton joined USP in 1940 and formerly served as southeastern sales representative as well as Atlanta office manager.

The new Southern sales manager is a graduate of Emory University in Atlanta and served in the U.S. Navy during World War II, attaining the rank of Lieutenant.

Rohm & Haas Files Suit Claiming Patent Infringement

WILMINGTON—A suit charging infringement of a patent was filed Oct. 26 by the Rohm & Haas Co., which is chartered in Delaware, against the Chemical Insecticide Corp. and United States Fungi Corp., both of New York, and Joseph Lametta, of Smyrna, Del., agent for the two firms, in U.S. District Court here. Rohm & Haas, which seeks an injunction and general damages, claims it was issued a patent in 1943 for an invention in fungicidal composition. The patent on which infringement is claimed was for "Dithane D-14" which is intended to remove fungus from plants.

The brief maintains that patent rights were reissued by the government later and that these are the exclusive property of Rohm & Haas. The plaintiff charges that the two firms and their agent have been and will be "wantonly and wilfully infringing on the patent."

An official at Chemical Insecticide Corp. said that the firm had no comment on the lawsuit.

This action follows filing by Rohm & Haas several months ago of infringement suits on some patents against E-Z Flo Chemical Co., Lansing, Mich., and its affiliate, Diamond Fertilizer Co., Sandusky, Ohio, and against Roberts Chemicals, Inc., Waco, W.Va.

SEEKS NEW SAFETY RECORD

NORFOLK, VA.—Smith-Douglass, Inc., reports that the firm established a record for the months of July and August, in having no lost time accidents. This was a company report, including S-D plants in Virginia, North Carolina, Minnesota, Illinois, Delaware and Texas. According to Vernon S. Gornito, in charge of the company's safety program, the first half of 1955 may be without a single disabling injury if care is taken to maintain the pace.

Farmers Welcome Two Days of Rain In Mid-South Area

MEMPHIS—Two days of rain over the Mid-South brightened the outlook for this year's soybean crop, but cut the grade of cotton and stopped the gathering of the cotton crop.

Agricultural Extension officials in Arkansas, Mississippi, Missouri and Tennessee said the rains were welcomed by the farmers, and were general over the area.

The rains, they said, were sufficient to prepare the land for sowing of fall grains and cover crops and will assure the farmer of a larger soybean crop. Some pastures will be revived by the timely showers.

The only damage will be to cotton, which will lose some of its grade because of discoloration caused by the rain.

In Arkansas, the Extension Service said the rains were expected to help the growth of small grains, which already are up, and to speed plantings in more fields.

Harvesting of early corn for grain and sorghums for grain is becoming general throughout the state. Harvest of silage crops is under way in many counties.

Farmers in Southeast Missouri welcomed rainfall as more than 15,000 bales of cotton were ginned from Pemiscot County farms, W. F. James, Pemiscot agent, said.

Mr. James said the cotton intake would increase in the near future with the use of mechanical pickers. The soybean crop continues to be spotty in the area, with part of the territory furnishing a top harvest while other parts of the county are lacking in growth.

The agent said Pemiscot County is

witnessing one of its best corn harvests in recent years.

Harvest of cotton, corn and sorghum for silage continues in full swing throughout most of Mississippi.

Ranking in first place of pressing farm jobs is the completion of cotton picking as farmers rushed to get the crop gathered before fall rains set in. In a few areas where rain has fallen, farmers showed a renewed interest in planting winter grazing and cover crops.

A. G. Bennett, extension entomologist, again cautioned farmers to have insecticides on hand to protect small grain crops against army worm infestations.

Long awaited rains in West Tennessee are beginning to ease the anxiety of farmers, considering fodder crops such as alfalfa, crimson clover and small grains.

Program Announced For WACA Meeting

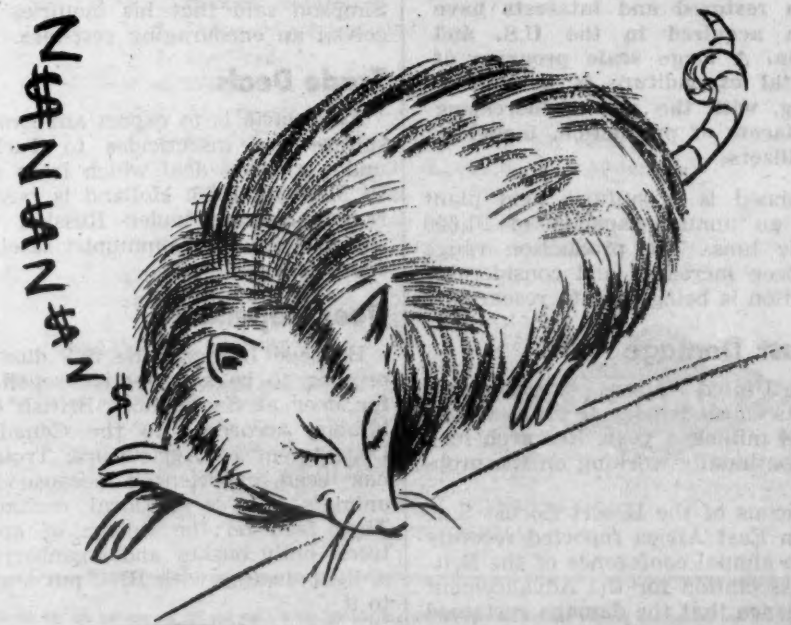
BERKELEY, CAL.—The program for the annual meeting of the Western Agricultural Chemicals Assn., to be held Oct. 11 at Hotel Claremont here, has been announced by C. O. Barnard, secretary-treasurer.

A meeting of the directors, a membership business meeting and election of officers will be held in the morning.

The following speakers will be heard during a luncheon meeting in the afternoon.

E. D. Maloney, Pacific Telephone & Telegraph Co., "Salesmanship and Sales Management," Dr. Rosmarie von Rumker, Chemagro Corp., "Interrelations between Basic and Applied Research in the Development of Modern Pesticides," and Robert Z. Rollins, assistant chief of the Bureau of Chemistry, California Department of Agriculture, "Responsibilities of Pesticide Salesmen."

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Plans Set for Plant Maintenance Conference

NEW YORK—Fifty sessions on 26 aspects of factory upkeep will highlight the seventh annual Plant Maintenance & Engineering Conference to be conducted in Philadelphia in January.

The conference, the largest annual industrial gathering of its kind, will be held concurrently with the Plant Maintenance & Engineering Show at Convention Hall, Philadelphia, Jan. 23-26. About 2,500 engineers are expected to attend the conference and some 20,000 industrial executives are expected at the show.

Six industries, including chemical, will receive special attention in the roundtables. They will have sessions devoted exclusively to maintenance problems in their respective plants.

HEADS CROP GROUP

STATE COLLEGE, N.M. — William F. Hayner, Las Cruces, was elected president of the New Mexico Crop Improvement Assn. at the association's recent annual meeting.



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WORLD REPORT

By **GEORGE E. SWARBRECK**
Croplife Canadian and Overseas Editor

Plans are being made for the production of synthetic insecticides in Mexico. Currently, all requirements have to be imported but the sponsors of the project see in the expanding agricultural economy a chance to establish local resources on a profitable basis. The main need is for BHC and DDT, and these provide the bulk of the import business right now.

Behind the project is Joseph Sperling of Foster D. Snell de Mexico. Mr. Sperling estimates that a capital of upwards of \$6 million will be required to produce 6,000 tons of chlorine-base insecticides annually. This output could be doubled by the further investment of \$3 million.

Part of the necessary capital can be raised from local sources. Part of the balance may come from one of the government financial agencies. The Mexican government is anxious to assist agricultural development and it is expected that there would be no hesitancy in backing the project. However, the sponsors point out that in addition to this American capital will be needed. Along with this must come American know-how.

Efforts are now being made to interest several U.S. companies in going along with the proposal.

German Progress

The German agricultural chemical industry is progressing by leaps and bounds. Typical is the experience of Wasag-Chemie AG. of Essen. The company's turnover in 1954, reported at the equivalent of \$28 million, was an advance of 16.7% over the previous year. The proportion of output going into export markets rose from 10% to 12½%.

The company states that many of its overseas connections have been restored and interests have been acquired in the U.S. and Spain. A large scale program of capital expenditure is now operating, with the aim of increasing all facets of production, including fertilizers.

Planned is a sulfuric acid plant with an annual capacity of 21,600 metric tons. The production range has been increased and considerable attention is being paid to research.

Locust Damage

The United Nations estimates that locusts cause damage to crops valued at \$84 million a year. Research men are continually working on the problem.

Officials of the Desert Locust Survey in East Africa reported recently to the annual conference of the British Association for the Advancement of Science that the damage sustained in Morocco from the locust infestation last fall was officially estimated at \$12.6 million.

A swarm of eight square miles in Kenya last February, the officials said, was found to contain 1,500 million locusts weighing 3,000 tons and capable of consuming their own weight of green food daily. Swarms normally cover several hundred square miles.

The research work now being undertaken should enable more effective control methods to be developed, the officials added.

Canadian Trade

Consolidated Mining and Smelting Co. of Canada, Ltd., reports that fertilizer sales, which were active in the spring, slumped in accordance with the usual trend during the summer but they are now picking up. The company has a total capacity of high analysis fertilizers of 800,000 tons a year.

Cominco is concerned in a plan for the distribution of fertilizers under the cooperative label. This is a new development for Canada. The fertilizers will be handled by consumer cooperatives and their regional wholesalers. The main types required by the prairie farmers are 11-48-0 and 16-20-0.

Brazil Factories

Two factories for the manufacture of organic fertilizers are being established in Recife, Brazil. The Sugar and Alcohol Institute is behind the plan, and it is proposed to use city garbage as raw material, with a mixture of chemical and organic material. Fertilizer is required for the development of Brazilian agriculture, particularly sugar cane, in the north eastern part of the country.

East African Plant

The establishment of a fertilizer factory to utilize phosphate deposits at Sukulu was among the subjects up for discussion between mining interests and J. T. Simpson, chairman of the Uganda Development Corp. when he visited London recently. Mr. Simpson said that his inquiries received an encouraging response.

Trade Deals

Yugoslavia is to export ammonium sulfate and insecticides to Turkey under a trade deal which is to run to May 31, 1956. Holland is buying raw phosphate under Russian auspices, from the Communist satellite countries.

Deer Repellent

Benzene hexachloride 5% dust is proving to be an effective repellent for deer at Saanichton, British Columbia, according to the Canadian Department of Agriculture. Trouble has been experienced because the animals browse in local orchards. They feed on the foliage of apple trees, holly bushes and loganberries. A light dusting with BHC put a stop to it.

Tulsa Considering Sale of Sewage Sludge

TULSA—The Tulsa Utility Board has discussed the possibility of selling dried sewage sludge as fertilizer. The city's new sewage plant recently made its first sludge run.

A. B. Jewell, assistant water superintendent, commented at the board meeting that the sludge was not especially satisfactory for fertilizer except when treated with nitrogen.

Board members discussed selling the sludge at cost, and it was estimated that the cost to the city was about \$1 ton.

C. WILBUR MILLER DIES

BALTIMORE—C. Wilbur Miller, former president of the Davison Chemical Co., died here recently at the age of 77. He also was a former board chairman of the Jefferson Lake Sulphur Co.

Gloomicides

Another good thing about an electric razor is that nobody has yet found a way to sharpen pencils with it.

★

Two cannibals met in a mental institution. One was tearing out pictures of men, women and children from a magazine, stuffing them in his mouth and eating them.

"Tell me," said the other, "is that dehydrated stuff any good?"

★

"My husband would never chase after another woman. He's too fine, too decent, too old."

★

It was down in southern Missouri and a man appeared early one morning at the door of a neighbor's home to ask for the loan of a mule to do some plowing.

"But you've got a good mule," objected the neighbor. "Why don't you use him instead of borrowing one of mine?"

"All that mule does is sit in the shade all day," was the sad reply. "He won't work."

"Then what's the matter with him? Is he sick?"

"No, that mule ain't sick," was the reply. "He thinks he's a gentleman farmer."

★

There are more important things in life than money but they won't go out with you if you are broke.

★

A fiery tempered Southern gentleman wrote the following letter:

"Sir, my stenographer, being a lady, cannot type what I think of you. I, being a gentleman, cannot think it. You, being neither, will understand just what I mean."

★

The hometown football team was having a bad afternoon. Everything they tried went wrong. Their passes were intercepted, their line bucks were failures, and their end plays only brought them a loss. The captain signalled desperately to the coach, "What will we do now?"

The coach immediately signalled back, "Try fumbling."

★

Old age is when you find yourself using one bendover to pick up two things.

★

One of the test questions asked a class of youngsters was:

"What can be done to help prevent floods?"

Later, while grading the papers, the teacher ran across this answer: "Floods can be prevented by putting big dames in the river."

★

The minister came to dinner with his collar unbuttoned. "I have a very painful boil on my neck," he apologized, "but then, we must endure such misfortunes with patience. Suffering is inflicted on us at times to try us."

The little 6-year-old listened and then inquired: "Well, if you're supposed to suffer, why don't you button up your collar?"

★

In these times, when you save money for a rainy day, it would be wise to pray for just a passing shower.

★

Steward: "Don't be so downhearted, lady. I have never heard of anyone dying of seasickness."

Victim: "Oh, don't tell me that! It's only the hope of dying that has kept me alive so far."

Budworm Spraying In New Brunswick To Continue in 1956

MONTREAL—Following the success achieved in previous years, it is planned to continue the attack the budworm in New Brunswick in 1956. The size and location of the project await the result of entomological surveys now in progress.

The work will be handled again by Forest Protection, Ltd. Financial support comes from the local government and from five pulp and paper companies.

One or two additional airstrips will have to be built to facilitate spraying of areas to the south and east of regions previously covered. Part of the forest which appears to require further spraying was done with insecticide two years ago.

Dr. R. E. Balch, head of the entomological laboratory of the Canadian government's Department of Agriculture comments, "seems we may be in for a fairly long program of spraying."

There has been some discussion about the advance effects of insecticide on salmon. Dr. C. J. Kerswill, the Fisheries Research Board of Canada, states that spraying in 1954 the Miramichi River, where observations are being conducted, is likely to result in a permanent reduction of salmon populations. Spraying is not related to this year's run of adult salmon into the river, although runs in two or three years may be reduced.

Demonstration to Show How Modern Methods Double Corn Yields

RED WING, MINN.—Proof that modern methods can more than double corn yields will be presented in a dramatic demonstration on the Walter and Paul Wenzel farm, miles southwest of Red Wing, Oct. 27. The Wenzel farm has been the scene of a special demonstration, "Corn Yesterday and Today," during the past summer. The field day will show results of this demonstration.

In the demonstration, corn on one plot was raised under the most modern methods. Corn on an adjoining plot was grown by methods used 30 years ago.

Final yield and cost figures will be shown and differences in production methods will be explained at the demonstration. University of Minnesota staff members, including the Goodhue County extension staff and crops and soil specialists from the St. Paul campus will be on hand, according to Arno Wiebusch, Goodhue County extension soils agent.

The "Corn Yesterday" plot was handled by methods common in the twenties. The land was not fertilized except for manure; open-pollinated (Minn. No. 13) corn was checked in rows, 12,000 plants per acre; and the corn was cultivated four times.

The "Corn Today" plot was fertilized three times—before planting, at planting, and after the last cultivation; insecticides and herbicides were applied for insect and weed control; a modern hybrid was planted on the contour; 18,000 plants per acre; and cultivation was limited.

This is the first time in Minnesota and probably in the nation, that such a demonstration has been scientifically conducted. Mr. Wiebusch, working with G. J. Kunau, county agent in charge of the demonstration. The University of Minnesota staff represented by Harold Jones, extension soils specialist, and Edwin Jensen, extension agronomist, is cooperating in the demonstration.

MEETING MEMOS

Oct. 10-12—Association of Official Agricultural Chemists, Annual Meeting, Shoreham Hotel, Washington, D.C., Dr. William Horwitz, Box 540, Benjamin Franklin Station, Washington 4, D.C., Secretary.

Oct. 11—Western Agricultural Chemicals Assn., Annual Meeting, Hotel Claremont, Berkeley, Cal., C. O. Barnard, 2466 Kenwood Ave., San Jose, Cal., Executive Secretary.

Oct. 13-14—National Nitrogen Solutions Assn., Meeting and Equipment Display, Illinois State Armory, Springfield, Ill., Roy F. Broyhill, Dakota City, Neb., Meeting Chairman.

Oct. 13-14—Canadian Agricultural Chemicals Assn., Third Annual Meeting, the Chantecleer, Ste-Adele-en-haut, Quebec.

Oct. 14—Association of American Fertilizer Control Officials, Annual Meeting, Shoreham Hotel, Washington, D.C., B. D. Cloaninger, Drawer 392, Clemson, S.C., Secretary-Treasurer.

Oct. 17-18 — Fertilizer Section, National Safety Congress, LaSalle Hotel, Chicago; Thomas J. Clarke, Chairman.

Oct. 18-19—Seventh Annual Washington Aerial Spraying and Dusting Conference, Cascadian Hotel, Wenatchee, Wash.

Oct. 19-21—International Conference on Use of Antibiotics in Agriculture, Jefferson Memorial Auditorium, U.S. Department of Agriculture, Washington, D.C.

Oct. 24—Salesmen's Association of the American Chemical Industry, Fourth Annual Sales Clinic, Roosevelt Hotel, New York.

Oct. 27—Middle West Soil Improvement Committee, Annual Meeting, Sherman Hotel, Chicago; Z. H. Beers, Executive Secretary, 228 N. LaSalle St., Chicago, Ill.

Nov. 2-3 — Annual Convention, Pacific Northwest Plant Food Assn., Pilot Butte Inn, Bend, Ore.; Leon B. Jackson, 702 Lewis Bldg., Portland, Ore., Secretary.

Nov. 2-5—Third annual Mid-Atlantic Farm and Home Show, Convention Hall, Atlantic City, N.J.; William A. Haffert, Jr., Sea Isle City, N.J., executive vice president.

Nov. 3-4—Northeastern Division, American Phytopathological Society, Eastern States Farmers Exchange, Inc., 26 Central St., West Springfield, Mass. B. H. Davis, Department of Plant Pathology, Rutgers University, New Brunswick, N.J., secretary.

Nov. 4—Fertilizer Section, South Carolina Annual Accident-Prevention Conference, Hotel Francis Marion, Charleston, S.C.; Anton L. Foster, International Minerals & Chemical Corp., General Chairman.

Nov. 6-8—California Fertilizer Assn., Thirty-second Annual Convention, Hotel Mark Hopkins, San Francisco; Sidney H. Bierly, Executive Secretary and Manager, 475 Huntington Drive, San Marino, Cal.

Nov. 8-10—17th Annual New York State Insecticide, Fungicide and Application Equipment Conferences; Bibbins Hall, G.L.F. Exchange, Ithaca, N.Y.; C. E. Palm, Cornell University, Ithaca.

Nov. 16-17—Ohio Pesticide Institute's Ninth Annual School and Conference, Ft. Hayes Hotel, Columbus, Ohio. J. D. Wilson, Ohio Agricultural Experiment Station, Wooster, Secretary.

Nov. 29-30—Land Use Forum, Kansas State College, Manhattan, Kansas, Dr. R. V. Olson, Kansas State

College, Chairman, Arrangements Committee.

Nov. 29-Dec. 2 — Entomological Society of America, Netherlands Plaza Hotel, Cincinnati.

Dec. 5—Soils & Fertilizer Short Course, Institute of Agriculture, University of Minnesota, St. Paul Campus.

Dec. 5-7—Agricultural Ammonia Institute, Kansas City; Jack F. Criswell, Executive Vice President, Claridge Hotel, Memphis, Tenn.

Dec. 5-7—Chemical Specialties Manufacturers Assn., 42nd Annual Convention, Roosevelt Hotel, New York; H. W. Hamilton, 50 E. 41st St., New York 17, N.Y., Executive Secretary.

Dec. 8-9 — Michigan Fertilizer and Lime Conference, Michigan State College, East Lansing.

Dec. 15-16—Beltwide Cotton Production Conference, Hotel Peabody, Memphis, Sponsored by the National Cotton Council.

Dec. 28-30 — American Phytopathological Society, Atlanta, Ga.; Glenn S. Pound, University of Wisconsin, Madison, Wis., Secretary.

Dec. 29—Symposium on Health Hazards of Chemicals, before the Pharmacy Section at Annual Meeting of American Association for the Advancement of Science, Atlanta.

1956

Jan. 4-6—Weed Society of America, Charter Meeting, Hotel New Yorker, New York; W. C. Shaw, U.S. Department of Agriculture, Beltsville, Md., Secretary-Treasurer.

Jan. 10-11—Eighth Annual North Carolina Pesticide School, North Carolina State College, Raleigh.

Jan. 15-17 — New Mexico Grain & Feed Dealers Assn., Annual Convention, Hilton Hotel, Albuquerque, with Special Portion for Fertilizer and Farm Chemical Dealers; H. B. Henning, Albuquerque, Secretary.

Jan. 16-18—Southern Weed Conference, Ninth Annual Meeting, Hotel Jung, New Orleans; Dr. E. G. Rodgers, Florida Agricultural Experiment Station, Gainesville, Secretary-Treasurer.

Jan. 26-29 — Agricultural Aircraft Assn., Inc., Sixth Annual Convention, Wilton Hotel, Long Beach, Cal.; Wanda Branstetter, Route 3, Box 1077, Sacramento, Cal., Executive Secretary.

Feb. 7-9 — National Garden Supply Trade Show, Kingsbridge Armory, New York City.

Feb. 15-17—California Weed Control Conference, Sacramento and Davis, Cal.; Oliver A. Leonard, Botany Dept., University of California, Davis, Cal., Secretary.

Feb. 15-17 — Western Weed Control Conference, Sacramento and Davis, Cal.; W. C. Robacker, U.S. Department of Agriculture, Nevada Agricultural Experiment Station, Reno, Nev., Secretary-Treasurer.

March 14-18 — National Agricultural Chemicals Assn., Spring Meeting, Hollywood Beach Hotel, Hollywood, Fla., Lea S. Hitchner, NAC Executive Secretary, 1145 19th St. N.W., Washington 6, D.C.

June 28-30—Association of Southern Feed & Fertilizer Control Officials, 14th Annual Convention, Hotel Roanoke, Roanoke, Va.; Bruce Poundstone, Kentucky Agricultural Experiment Station, Lexington, Ky., Secretary-Treasurer.

June 28-30—Seventh Regional Fertilizer Conference of the Pacific Northwest, Chinook Hotel, Yakima, Wash.

Sulfuric Acid Used to Neutralize Salt in Soils

EL PASO, TEXAS—Local farmers who have watched their land salt out from using salty irrigation water are interested in a new method of neutralizing the salts. This is nothing more than sulfuric acid applied to the land. Its use was first recognized in the Casa Grande Valley in Arizona in 1937, and it was first brought to the Rio Grande Valley by the Southwest Chemical Co., which obtained it from the Standard Oil Co.

Farmers who have tried sulfuric acid on salty soils are well pleased with crop results. Harold Lujan of nearby Acala had been troubled by black alkali on his farm and used 800 to 1,000 lb. acid per acre. Land that had become too puddled for crops to grow at all produced a bale per acre after the acid was used.

The acid may be applied to the land by a sprayer or put into the irrigation water. It has proved helpful to both types of alkali—white and black. The black alkali is more serious because it becomes insoluble to water and cannot be leached out. The use of sulfuric acid changes the chemical content of the salts and makes crop production possible.

The popularity of sulfuric acid for

soil use is steadily growing in the valley. J. C. Carpenter of the Fabens Acid Co. believes his sales will double next year. He said his firm sold 700 tons of acid for soil conditioning this last season.

The Western Cottonoil Co. and the Southwest Chemical Co. are also handling the acid. The latter company also has sales outlets at Anthony, Deming and Columbus in New Mexico, and at Clint and Pecos in Texas.

Chemical Health Hazard Symposium Scheduled

CHICAGO — The Committee on Toxicology of the American Medical Assn. will sponsor a symposium on health hazards of chemicals at the annual meeting of the American Association for the Advancement of Science, to be held Dec. 29 in Atlanta.

On the symposium will be Dr. Lester M. Petrie, director, preventable diseases service of the Georgia Department of Public Health, Atlanta; Dr. Wayland J. Hayes, chief of the toxicology section of the communicable diseases center, U.S. Public Health Service, Savannah; Dr. Irvin Kerlan, associate medical director of the Federal Food and Drug Administration, Washington, and Mrs. Veronica Conley, assistant secretary of the AMA committee on cosmetics, Chicago.

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South Carolina Group Hears Talk On Farm Problems

COLUMBIA, S.C. — The South Carolina Plant Food Educational Society heard Rep. John L. McMillan (D., S.C.) declare here Sept. 23 that farmers "don't want coddling" but do need the aid of the federal government in providing machinery by which the farmer can adjust production to market demands and give him a voice in setting prices on his products.

"Hard times are again hitting American farmers while other economic areas are enjoying unparalleled prosperity," Rep. McMillan told the 100 members attending the annual convention of the society.

"We must prevent a farm depression parallel to that in 1930. . . . No one would dare criticize the military for destroying billions of dollars worth of obsolete planes or guns," but there are those who "tell the nation that (farm) subsidies and surpluses mean waste and regimentation by Washington," he said.

Rep. McMillan's talk preceded election of Harry E. Gifford of Columbia, Lion Oil Co., a division of Monsanto Chemical Co., as president of the society. Other officers elected were Joe L. Stough, Davison Chemical Co. Division of W. R. Grace & Co., Charleston, vice president, and J. R. Fulton, Virginia-Carolina Chemical Corp., Columbia, secretary.

Dr. Russell Coleman, executive vice president of the National Plant Food Council, several extension service experts and industrial representatives were also on the program.

ICC RATES

(Continued from page 1)

quest for trainload rates for commodities such as phosphate rock or potash, is doomed to failure.

The difficulty appears in the narrowness of the ICC action.

It is pointed out by trade traffic experts that the ICC three-man commission ruled that this trainload rate was granted for the shipment of a commodity—coking coal—from eastern mines to the Chicago area. The rate reduction was relatively small. It is pointed out in the ICC ruling that general purpose coal can still be obtained in the Chicago area at lower tariffs than the trainload rates granted by the commission recently.

This same fertilizer industry expert on rail tariffs noted in this general connection that the ICC is currently holding hearings on a petition to make permanent the 15% surcharge on tariffs which has been in effect for some time on a temporary basis. In the case of potash shipments, this surcharge on basic tariffs amounts to 15% increase on the initiative of the carriers, but not more than \$1 per ton.

Potash producers are not attempting to defeat any reasonable increases granted to the carriers, but at the same time, it is pointed out in these trade circles that the price of potash has been constant and stable for some years while rail rates have advanced. In the case of manufacturing industries, the companies have been able to pass on such increases as those for raw materials and freight rate advances, but in the case of potash, such passing-on of charges has not been possible.

If in this instance of approval of a permanent surcharge increase over basic rates on such commodities as potash, it is feared that the carriers will promptly file new tariffs to incorporate the 15% surcharge—subject to the one dollar per ton maximum limitation—in their tariffs.

Funds Approved for Hurricane-Stricken Farmers in 3 States

WASHINGTON—An initial allocation of \$500,000 from the President's disaster relief fund has been approved by Ezra Taft Benson, secretary of agriculture, to help farmers in the hurricane-stricken areas of North Carolina, Connecticut and Massachusetts.

The money will be used to help farmers restore their lands for agricultural production. The special allocation will be used to supplement regular Agricultural Conservation Program funds.

Of the initial allocation, \$300,000 goes to North Carolina, \$150,000 to Connecticut and \$50,000 to Massachusetts.

In Massachusetts, Harold F. Thompson, state administrative officer for the Agricultural Stabilization and Conservation Committee, explained that farmers can receive the hurricane-relief aid on a cost-sharing basis. He said that cost-sharing may take any of these forms:

It is available for the restoration of pastures and grasslands now unfit for use because of erosion or deposition of silt, sand, stones and other debris.

It can be used for stopping erosion or gullying which is resulting in damage to the soil and water conservation program of the farm.

It is available for putting into effect special cover crop practices to temporarily protect soil.

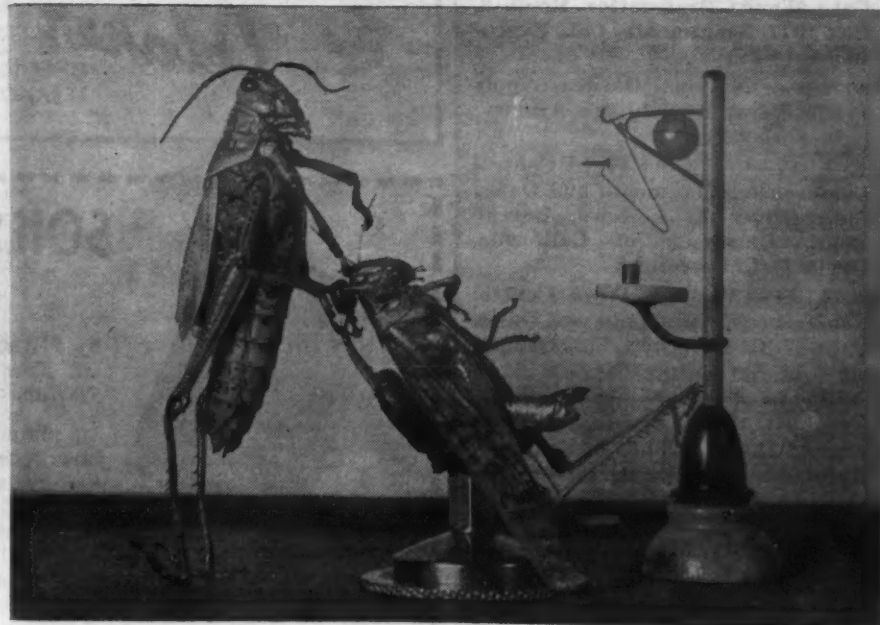
This would be where crops have been destroyed and soils need protection from wind and soil erosion, and to remedy fertility deficiencies resulting from serious flooding and water erosion.

Mr. Thompson said federal assistance for the first two practices may amount to 80% of the cost of restoring the land, not to exceed \$1,500 per person.

Only 50% of the total cost will be shared by the federal government for the third form of assistance for the seed and other expenses of seeding.

CLASS FOR FLORISTS

ST. PAUL—An evening class for commercial florists will be given by the University of Minnesota Horticulture Department on the St. Paul campus beginning Oct. 5. Dr. Richard E. Widmer, floriculturist, will conduct the class, which will be held each Wednesday for nine weeks.



OPEN WIDER PLEASE—One way to halt the destructive results of grasshopper appetites, perhaps, would be to extract the chewing machinery from their mouths. This method, though strictly not recommended by state agricultural experiment stations nor the U.S. Department of Agriculture, is apparently being followed anyway by these insect specimens set up by Dr. Lehman Wendell, Minneapolis dentist who makes a hobby of this type of photography. Props in the pictures are described by Dr. Wendell as being "odds and ends" of things he found around the office. The grasshoppers themselves are real ones, provided by a dealer in biological specimens.

TOLERANCE

(Continued from page 1)

committee of pharmacological scientists appointed by FDA to make a study of the use of this product.

The tolerance level approved last week was that which had been requested by manufacturer, and acting under its authority, FDA and the company took the final decision before this committee of scientists to give full weight to the finding. The company has been producing this product and had previously undertaken scientific studies to prove its low toxicity. The committee in its unanimous report also commented that the company should continue further research on the product to assure that further evidence tends to confirm the findings reached here and approved by FDA.

The tolerance approved is for use of the product on the following raw agricultural commodities: Apples, cauliflower, celery, cucumbers, grapefruit, grapes, green beans, lemons, oranges, pears, plums, raspberries, strawberries, sweet corn (except for forage), tomatoes, watermelon and muskmelon.

Experiments conducted by the committee of scientists consisted of inclusion of 1,580 and 5,000 parts per million of the product in the diet of rats, which revealed evidence of liver damage. However, the committee reached the conclusion that the relatively inconsequential residue tolerance asked would be too small in quantity to make the product harmful to humans.

The committee consisted of the following individuals: Chairman, H. S. N. Greene of Yale University; L. W. Hazleton of the Hazleton Laboratories, Falls Church, Va.; R. L. Metcalf, University of California; M. K. Seevers, University of Michigan Medical School and A. Tannenbaum of the Michael Reece Medical Research Institute, Chicago.

FINANCING LECTURES

NEW YORK—A series of ten lectures on chemical financing began Sept. 28 under sponsorship of the Chemical Marketing and Economics Group of the New York Section, American Chemical Society.

The series will be given on weekday nights through Nov. 30 from 7 to 9 p.m. in the Union Carbide and Carbon Corp. building, 30 East 42nd Street.

Hearings Held on Pesticide Law Changes In California

SACRAMENTO — Allen B. Lemmon, chief of the Bureau of Chemistry, California Department of Agriculture, held hearings in Sacramento and Los Angeles Sept. 15 and 16 on proposed changes in state regulation on the use of injurious herbicides and pesticides.

Mr. Lemmon, acting as hearing officer, said that regulations in force for several years require that a permit be obtained from a county agricultural commissioner before using weed killers containing 2,4-D and similar hormone preparations or before using hazardous pesticides. In several cases investigated by the department during the past two years, he said, farmers applied such materials without obtaining permits.

The 1955 legislature changed the law to require a dealer, before selling any chemical for which a permit is required, to obtain from the farmer a signed statement that he has a valid permit. One of the subjects before the hearing was consideration of the form in which the signed statement is to be made.

Also considered by the hearing was the proposal to include among herbicides requiring a permit for use, the newly developed 2,4,5-trichlorophenoxyacetic acid (silvex) and the similar 2,4-DP.

Proposed changes in the regulations would require a permit be secured from the commissioner before using the insecticide TEPP in any form. Previously the regulations required a permit only when it was to be used as a thermal aerosol.

According to the proposed changes, no permit would be required to apply to an injurious herbicide sold or delivered in a quantity of not more than one pint of liquid or one pound of dry formulation.

Guard C. Darrah, representing the Lodi (Cal.) District Grape Growers Assn., suggested that the dealer be restricted from selling more than one such small package to the same person in any one day.

L. F. Christiansen, president of the Lodi Grape Growers, suggested that each farmer applying an injurious herbicide be required to maintain complete records of the application subject to inspection for three years thereafter.

Charles O. Barnard, secretary of the Western Agricultural Chemical Assn., suggested that the permit from the commissioner be issued in duplicate and one copy given by the farmer to the dealer at the time of delivery as the best evidence that a permit had been obtained.

Massachusetts Picking Best Apple Crop in Years

BOSTON — Massachusetts is picking its biggest McIntosh crop in years. The chilly autumn nights have put a beautiful bloom on the apple crop and apple growers have only one problem, storage.

Last year's crop was ruined by hurricanes "Carol" and "Edna." This year's hurricane "Diane" swept a disastrous flood which put the true farms under water, but instead of hurting the apple crop, on high ground, helped with needed irrigation.

Massachusetts orchards, until a few years ago, were 65% McIntosh. The percentage now is under 50% with Cortland, Red and Golden Delicious coming to the fore.

MORE SOYBEANS

ST. PAUL—Fertilizer trials by C. Caldwell of the University of Minnesota soils department, show use of commercial fertilizer in soybean production can be profitable. Fertilizer put on in Mower County resulted in yield increases as high as 12 bu. per acre.

ported \$1.9 million in Pennsylvania \$182,700.

The Connecticut agriculture which 922 in Estimated summed up

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Farms reported numbers attempt to c However, 818 being seriously deposits dam

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NORTHWEST FLOOD DAMAGE

(Continued from page 1)

ported \$1.9 million, while crops lost in Pennsylvania amounted to \$182,700.

The Connecticut department of agriculture made 3,712 surveys, of which 922 indicated loss or damage. Estimated value of crop losses were summed up as follows:

Tobacco, 1,315 acres, \$1,064,400; hay, 3,484 acres, \$112,185; corn, 2,065 acres, \$111,490; sweet corn, 157 acres, \$15,750; potatoes, 433 acres, \$131,325; vegetables, 610 acres, \$303,088; new seedlings, 1,688 acres, \$88,935; old seedlings, 3,017 acres, \$61,736; miscellaneous crops, 654 acres, \$28,214.

Farms reporting losses from erosion numbered 185, but they did not attempt to estimate acres affected. However, 818 acres were reported as being seriously eroded. Silt and debris deposits damaged 1,321 acres.

Livestock lost in Connecticut totaled 235, valued at \$50,020. Poultry losses numbered 15,005, with estimated value of \$29,160.

There were 207 farm buildings lost or damaged, totaling \$344,095. Estimated value of 217 pieces of farm equipment lost or damaged was put at \$83,743.

Other damage, including farm roads, ponds and dams, was estimated at \$120,221.

Most damage in the Connecticut survey was reported in Hartford, Litchfield and Tolland Counties. Crop losses took place in most counties, severe damage occurring in the three counties mentioned and also New Haven County.

Livestock losses occurred mainly in Hartford and Litchfield Counties. Losses of poultry were heavy in Litchfield and Windham Counties.

The New Jersey department of agriculture indicated crop losses at \$250,000 in the Montague area, \$130,000 in the Vernon vicinity, \$90,000 at Newton, \$200,000 on 20 vegetable farms in the Great Meadows area and \$30,000 in Hunterdon County.

The "most spectacular loss" was at the Kerr Chickeries, Inc., hatchery at Frenchtown, according to the agriculture department's report. A quarter of a million hatching eggs were destroyed and 7,000 chicks drowned. Much mechanical and structural damage of the incubators occurred.

Management of another hatchery offered use of its facilities by Kerr and the first "post flood" hatch of eggs came off Sept. 12. After a complete refurbishing, including bactericidal gassing after scrubdown, Kerr will set its first eggs in its own incubators on Oct. 1, according to Gerald E. Zich, assistant director of New Jersey's Division of Markets.

Kerr Chickeries' breeding flock is under the supervision of the New Jersey department of agriculture. It has the state's third largest incubator capacity, rated at 1.2 million eggs per setting.

Other poultry losses amounted to over 11,500. Approximately 5,000 mature chickens were lost in the Frenchtown area. One flock of 1,500 ready-to-market turkeys was lost in Sussex County. A 5,000 layer flock at Phillipsburg drowned. Scattered poultry losses were reported in other parts of the flood area, principally in the counties of Hunterdon, Warren and Sussex.

A dairy herd on lowland pasture was reported missing in Sussex County. Livestock losses also were reported in the same general area where poultry losses occurred.

Greatest farm losses reported in Pennsylvania were in Bucks, Pike and Wayne Counties, according to the State Department of Agriculture survey.

The governor's office reported damage heaviest in Pike County, amounting to \$260,000. Crop losses were

\$60,000, poultry \$50,000 and building damage was \$150,000.

Crop losses in Bucks County were estimated at \$102,700, livestock \$3,500, land damage \$5,800 and other farm losses at \$100,000. Land damage was from flooding, not erosion.

Damage to farmland and buildings in Wayne County was \$200,000. Crops lost were estimated at \$20,000 and livestock \$2,000.

About 2,000 chickens and turkeys, but no livestock losses, were reported in Lackawanna County. Bedrock was exposed in several fields and some implement and other sheds were destroyed.

Losses of poultry, hay, stored grain crops and a few sheds were reported on about 20 Northampton County farms.

Nine farms were seriously flooded along the Delaware River. Land lost completely for farming purposes totaled 70 acres, the Pennsylvania report said. Debris and silt covered another 75 acres and 55 acres of pasture land were flooded. No livestock, but about 400 chickens and a few poultry shelters were lost.

Flood damage added to that of drouth was reported in Carbon, Luzerne, Schuylkill and Montgomery Counties. Drouth effects were more serious in these counties than flooding and heavy rains. About 100 acres of corn in Lehigh County was lost, attributed to both drouth and flood.

The primary damage to Maryland agriculture from the recent storms was to the tobacco crop, according to John W. Magruder, county agent leader. Crop damage was estimated at 40%.

Corn was blown down in many areas of the state, but overall yields are not expected to be affected, he said.

The tomato crop was damaged both in yield and quality. No specific statistical data was collected concerning the injury. The damage to corn and tomatoes was, Mr. Magruder said, not beyond that periodically experienced in the regular production of these crops.

No reports of damage or loss of livestock, farm equipment, feed mills, stores, fertilizers, etc., were available from Maryland.

Agricultural losses in Rhode Island were slight, according to H. O. Stuart, director of cooperative extension work. He reported that for the past several months agricultural agencies in Rhode Island, both federal and state, have sought to develop an emergency agricultural setup that could function in any disaster, either "man-made or natural."

The Rhode Island Department of Agriculture and Conservation has been designated as the primary state headquarters for this operation. Secondary headquarters would be the cooperative extension office, Mr. Stuart said.

No reports of flood damage were available from New York or Massachusetts.

A. O. Brookes Named Assistant Secretary at Nopco

HARRISON, N.J. — Alfred O. Brookes has been appointed assistant secretary of the Nopco Chemical Co. The announcement was made by Ralph Wechsler, president of Nopco, following a recent meeting of the board of directors.

Coming to Nopco in 1926, Mr. Brookes worked as a clerk, and later, as a bookkeeper. His most recent position with the company has been that of chief accountant. He was educated at Kearny High School, Kearny, N.J., and Pace College of New York City. He is a resident of Bloomfield, N.J.



ENGINEERING STRATEGY — Earl Lutz of the Dow Field Engineering Staff, right, points to a structural detail in a model grain elevator equipped for recirculation of methyl bromide, as he and J. L. Maxwell, left, check blueprints for an installation on which Lutz is consultant engineer.

New Method of Controlling Commercial Elevator Pests Reported by Dow Engineers

MIDLAND, MICH. — Forced recirculation of methyl bromide, a new method for control of insects in commercial elevators, is being adopted widely, according to reports filed by field engineers of Dow Chemical Co. The company established the engineering consultation service to assure adequate design of installations for this pest control method. Early re-

search indicated that no two installations of the system are quite alike and the company, working closely with USDA to pioneer the method, lays great stress upon adequate engineering of the system from the standpoints of both effectiveness and safety.

These field reports disclose that some elevator operators have now decided to install aeration systems because these tie in with the new method. Aeration itself is increasingly important in the management of stored grain.

INSECT NOTES

(Continued from page 4)

committee and chief entomologist for the Colorado A&M Experiment Station, also reported a noticeable build-up in eggs of the tomato fruit worm in Pueblo, Otero and Bent Counties.

Peak numbers for the season of corn root worm moths were collected in light traps at Hartman (Prowers County) and Vineland (Pueblo County).

The committee stated that mosquito populations now are on the downward trend in most areas of the state. They urged that Colorado communities give some special thought to mosquito control programs for next year . . . especially in areas where cases of sleeping sickness in horses and human beings have been reported. Aerial applications of insecticides have been effective in controlling mosquitoes on a community-wide basis, the committee said.

Forage Insects Prevalent, Florida Report Indicates

GAINESVILLE, FLA. — Grass-worms, velvet bean caterpillars, corn earworm, Southern armyworm and chinch bugs are reported (Sept. 23) in various parts of Florida.

Grassworm larvae, averaging 1 to 4 per plant, were found in St. Lucie County; and the caterpillars were found, ranging from 1 to 5 per plant, also in St. Lucie County.

Southern armyworm was located in Santa Rosa County. The bugs averaged 1 to every plant in over 300 plants inspected.

Chinch bugs averaged from one to twenty-five per square foot in Alachua County.

Fruit insects noted in the Sept. 23 report included green shield scale, chaff scale, walnut caterpillar and leafhopper. Forest insects included Mexican mealybugs, hed-headed pine sawflies and Florida red scale. The cotton aphid was reported to average 50 per leaf in St. Lucie County.

Dow points out that with present large quantities of grain in storage, it is often difficult or impossible to turn the grain at regular intervals. The fact that the new method can be adopted by inexpensive modification of existing forced-air systems, is said to have made it attractive to many mill and elevator operators.

In essence, an aeration system planned for this method of fumigation differs from the conventional aerating system only in that the exhausted air can, when desired, be returned through the grain. With the system set to do this, a relatively small amount of methyl bromide gas is put into the air, and is recirculated until it is thoroughly mixed through all parts of the grain.

The blower is then turned off, and the gas allowed to remain for the necessary time, usually a day. The air flow is then adjusted, and the blower is turned on again. Fresh air is drawn in and gas blown harmlessly out into open air.

Upon the basis of research and practical experience, Dow scientists state that it is less expensive and involves a minimum hazard of exposure to the operator since the gas is applied only in a closed system. Operated correctly, the system offers little hazard to personnel.

Cotton States ESA Branch to Meet

AUBURN, ALA. — The Cotton States Branch of the Entomological Society of America will hold its annual meeting Feb. 6-8, 1956, at the Biltmore Hotel, Atlanta, it was announced by W. G. Eden, secretary-treasurer of the branch. Mr. Eden is in the Department of Zoology-Entomology at Alabama Polytechnic Institute, Auburn. Details of the February meeting have not been announced as yet.

Croplife®

A WEEKLY NEWSPAPER FOR THE FARM CHEMICAL INDUSTRY

The regional circulation of this issue is concentrated in the Northeastern states.

Hard Work Ahead, But—

Pesticide Industry Sees Promising Future

Reaching into the past to project future events in the chemical trade as it applies to agriculture, speakers at the recent meeting of the National Agricultural Chemicals Assn. discussed many significant subjects. These dealt with the problem of safety in the use of pesticidal products; future prospects in chemical research; and the necessity of compiling far more facts and figures about the industry and its markets.

Although many of the worthwhile comments heard at the NAC meeting have already been reported, here are distilled drops from some of the talks given at Spring Lake. We think they bear special thoughts that well deserve a second look.

W. W. Allen, Dow Chemical Co., president of the Association, emphasized the need for a greater pooling of information so that the entire industry may have a broader view of the actual market potential and how a given firm might fit into the picture. The industry's trade association, Mr. Allen said, is the proper channel for such activity. "We need some vital information ourselves," he said. "We need good statistics about our markets, and we need them now."

"We are a big and complex industry and our markets are often very new. When we forecast without enough data, and when we live in secrecy, we invariably overestimate the size of the market. And usually we underestimate the manufacturing and selling costs because we overestimate the market. That means overproduction and low profit margins . . . if any profit at all. The simple solution is to supply the association with a wealth of collective information on potential markets, and share it."

"I am talking about any segment of the industry in which there are more than three producers. If we stick to this formula, we run little risk of disclosing the production figures for an individual company."

"Specifically, we need over-all figures of production capacity; we need periodical production and sales figures; and we need reports of inventory."

"Nobody likes to reveal these figures . . . but let's get realistic . . . nobody likes enough insecticide in their warehouse to spray the seven planets in our solar system after the world market is saturated."

President Allen wasn't the only speaker who had ideas for the betterment of the industry. Arthur W. Mohr, president of California Spray Chemical Corp. and past president of the NAC Assn., urged the industry to launch a safety program to reduce to a minimum the possibility of accidents resulting from misuse of various pesticides.

He pointed out the difference in degree of hazard between shipping toxic materials in carload lots to other chemical firms where the employees are trained in safety measures, and that of placing these products in the hands of farmers and others who lack thorough instruction in use. It is largely at this point where a safety program for pesticides may involve different problems than those encountered within a plant or an industry.

A safety educational program is needed, Mr. Mohr said, for the customers of the industry. Death and injuries occur each year entirely due to carelessness, misuse, or lack of precaution on the part of users, and this results in adverse publicity, it was pointed out.

Mr. Mohr expressed the hope that customers, particularly prospective ones, "may be convinced that even though many of our products must of necessity be highly toxic, they are safe to use if handled properly. They should be convinced that pesticides can be used safely if all precautions are followed and that they can confidently enjoy the tremendous benefits offered by pest control."

A two-part program for safety was suggested: First, that the industry include with all pamphlets, sales literature, advertisements, etc., a paragraph or statement on safety. If space limitations prevent this, a stuffer on the subject should be attached or put in the container.

This extra copy would urge the user to read labels, observe all directions and cautions, store properly and dispose of containers when they are empty. He also suggested that the Association work through various agencies to promote the same idea.

In his talk on agricultural chemical research, Dr. J. T. Thurston, director of the Stamford Laboratories of American Cyanamid Co., looked into what may lie ahead in the field of chemical development. He declared that although much industrial research has been devoted to aid farmers in their production of crops and livestock, still much less has been done to protect and preserve agricultural produce which are subject to decomposition and spoilage from a number of causes after harvest.

"Greater realization of the magnitude of these losses and their cost to the ultimate consumer has resulted in fairly intensive research on the part of the chemical industry," he said. "Such items as new chemicals for greater residual insect control in grain and experiments on the use of antibiotics for the preservation of meat and vegetables can be cited to indicate that good progress is and will be made in the whole general area of food preservation."

"Heavy losses from parasites and other pests to animals still continue to be a major factor in meat production. While excellent progress has already been made in this area, particularly in the poultry industry, the prospects for still greater improvements appear of interest. Development of effective insecticides with low animal toxicity, the discovery of more selective therapeutic agents, and the search for systemic type pesticides are evidence of expected progress in this field."

"In view of the advantages of this type of pesticide, particularly the lasting protection it provides and the ease of its application, it is reasonable to suggest that systemics will be the pesticides of tomorrow. If one wishes to let his imagination wander, the farm practice of the future could conceivably develop to the point where planting and application of all necessary chemicals to provide nutrients and protection from pests for the entire season could be carried out in one operation. Add to this the prospects of residual type selective herbicides and the farmer could go on vacation until the crop needed harvesting."

Discussion of the Miller Amendment to the Federal Food, Drug and Cosmetic Act is of course inevitable in an industry meeting of this type and in this regard the NAC heard from Winton B. Rankin, assistant to the FDA Commissioner.

He indicated that public hearings on the residue problems of chemicals are still likely, specifically in the case of defoliant which are not included as economic poisons under the language of the Act. However, "if defoliant residues are necessary in food, tolerances should be established for them under the public hearing procedures which were followed in the 1950 spray residue hearings," he said.

"Some people believe that it is futile to try to get a tolerance established under this public hearing procedure. This is not true. The belief probably stems from the delays which occurred after the 1950 hearing. In 1950 we tried to handle too many chemicals at one time. This resulted in a tremendous hearing record which could not be handled promptly."

"In 1950 approximately 80 chemicals were considered during the 82 days of spray resi-

(Continued on page 23)



CROPLIFE is a controlled circulation journal mailed to those responsible for the production and distribution of fertilizer and other farm chemicals and to retail dealers of the agricultural chemical industry in the U.S. To those not on the controlled list, CROPLIFE is available at \$5 for one year, \$9 for two years (\$8 a year outside the U.S. and possessions). Single copy price, 25¢.

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Fertilizer Control Officials Announce October 14 Program

WASHINGTON, D.C. — Program is complete for the 9th annual meeting of the Association of Official Fertilizer Control Officials, to be held at the Shoreham Hotel, Washington, October 14.

The advance program calls for a report by Dr. B. D. Cloaninger, Clemson, S.C., secretary-treasurer of the group; an address by the group's president, Russell W. Ludwick, State College, New Mexico; and by other speakers representing not only the fertilizer control officials, but also the U.S. Department of Agriculture and the fertilizer manufacturing industry.

Paul T. Truitt, executive vice president of the National Plant Food Institute is to give an address in the morning program, representing the trade association before the group.

Dr. J. B. Pitner, manager of agricultural services, Grace Chemical Co., Memphis, Tenn., will discuss "Plant Research as Related to Fertilizer Practices." Dr. Pitner was formerly head of the department of agronomy, Clemson A&M College, Clemson, S.C.

Dr. J. Fielding Reed, Atlanta, Ga., northern manager of the American Fertilizer Institute, will speak on "Rat and Multiple Grades as Related to Soil Testing," and Dr. Edwin C. Gustaf, technical service director, Potash Co., New York, will discuss new developments in fertilizer manufacturing techniques.

"Complete Liquid Fertilizer Mixtures" will be the subject of a talk by R. B. Ellsworth, general manager of R. B. Ellsworth & Associates, Indianapolis, Ind. W. C. Winick, chief inspector of the Seed, Fertilizer and Fertilizer Division, Oklahoma Dept. of Agriculture, Oklahoma City, will speak on "Accounting the Public with our Program."

A statistical report on the distribution of bulk fertilizer materials during the fiscal year 1953-54, will be presented by Walter Scholl, Hilda Wallace and Esther I. Fox, U.S. Department of Agriculture, Beltsville, Md.

The closing session in the afternoon will comprise reports of investigators in various states. Slated to appear on this portion of the program are:

H. Snyder, Charleston, W.Va.; P. Etheredge, State College, Miss.; W. Kuzmeski, Amherst, Mass.; W. Fudge, College Station, Texas; W. Quackenbush, Lafayette, Ind.; A. Smith, Kingston, Rhode Island; H. C. Berry, Richmond, Va.; M. B. Phillippe, Clemson, S.C.; M. B. Berry, Richmond, Va.; John L. Monahan, Topeka, Kan.; G. H. Ridder, Topeka, Wash.; W. J. Huffman, Jackson, Mississippi; and Parks A. Smith, Oklahoma City, Okla.

Fumigated for Khapra Beetle Control

SACRAMENTO—One of the largest mill and grain storage warehouses coming under the California Department of Agriculture's khapra beetle suppression program was fumigated recently.

It was the J. B. Hill & Co. plant, located in Fresno, comprising about 10,000 cubic feet of space. Methyl bromide was used at the rate of five pounds per thousand cubic feet of space under the covering of tarps.

Operations were under direction of E. Gammon, departmental entomologist, assisted by Elmer Mayer, representing the U.S. Department of Agriculture.

Official Agricultural Chemists Plan Meeting

WASHINGTON, D.C.—Nearly 200 papers are on the agenda to be delivered at the 69th annual meeting of the Association of Official Agricultural Chemists at the Shoreham Hotel, Washington, D.C., October 10-12. The AOAC develops laboratory methods for testing soils, feeds, fertilizers, pesticides, foods, drugs and cosmetics in keeping with federal and state laws covering these commodities.

George P. Larrick, Commissioner of the Federal Food and Drug Administration, Washington, will be the featured speaker at a banquet Oct. 10, and Dr. W. F. Reindollar, Maryland State Board of Health, president of the AOAC, will present his presidential address Oct. 11.

The impact of the Miller Amendment on the work of AOAC members will be discussed by Dr. A. K. Klein of FDA, who will describe methods used to isolate and identify trace amounts of endrin in leafy vegetables voluntarily destroyed by the packer before reaching consumer channels. Other reports on methods of analysis for pesticidal residues will be given by chemists of the Food and Drug Administration and by Dr. Charles W. Gehrke, University of Missouri.

Five papers on various aspects of fertilizer analysis will be included on the program. Authors and co-authors of these papers, all USDA scientists at the Beltsville experiment station, are W. L. Hill, W. H. Armiger, H. E. Batson, Jr., W. M. Hoffman, B. M. Olive, P. Chichilo, A. W. Specht, Colin W. Whittaker and C. J. Schollenberger.

All AOAC sessions are open to interested scientific workers and the public, according to Dr. William Horwitz, Food and Drug Administration, Washington, D.C., secretary of the AOAC.

Growers Hear of Value of Nitrogen in Rice Production

SACRAMENTO—Rice growers get greater returns from nitrogen fertilization than from any other single fertilizer, Duane S. Mikkelsen, University of California staff member, told an audience at Rice Field Day on the University's Rice Experiment Station at Biggs.

Lack of nitrogen often limits rice production in California, Mr. Mikkelsen told an audience of 250 persons. The need varies, he said, from none in the first year to 120 lb. per acre or more under continuous rice culture.

He said experiments show that ammonia form gives best results.

"Not only is it important to use the ammonia form," he said, "but further benefits result from applying it in the correct way. Yield may be increased more than one third if the fertilizer is drilled into the soil to a depth of four inches. Benefits will be less with other methods. Broadcast in water, it increases yield only about 10%; broadcast on a dry seedbed it increases yield about 20%; diking it in further will increase the yield by another 10% or so."

Mr. Mikkelsen also described tests in counties where phosphorus is needed in addition to nitrogen. The effect of phosphorus on yield has not been determined, but it was observed that phosphorus stimulates growth, produces earlier flowering by about a week, and increases the number of tillers by 50 to 100%.

DEAN RETIRES

GAINESVILLE, FLA.—Dr. C. V. Noble, dean of the University of Florida College of Agriculture since July 1, 1950, has retired.

EDITORIAL

(Continued from page 22)

due hearings. This is an average of about one day per chemical and many chemicals required less time. If a hearing is confined to one or two related chemicals, we believe it can be held expeditiously, and proposed and final order can be prepared promptly.

"In the future, we plan to limit the scope of public hearings on poisonous chemicals to avoid the development of an unwieldy hearing record. We believe that it is possible and practical to hold a public hearing on a defoliant or a group of defoliants in a matter of days and issue a final order based on that hearing within essentially the same period of time that is required now to process a petition under the provisions of the Miller Bill."

The above comments are but a few out of the great mass of information that always comes out of meetings like those held by NAC each year. Our opinion is that such gems should be taken out of the box once in a while and studied. The industry moves ahead on the ideas of its leaders, and the pesticide industry is certainly, not standing still!

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Bagpak Div., International Paper Co.	Naugatuck Chemical Div., U. S. Rubber Co.	
Baker, H. J., & Bro.	Nelson, Edward S., Ltd.	
Baughman Manufacturing Co., Inc.	Niagara Chemical Division, Food Machinery and Chemical Corp.	
Bealrd, J. B., Co.	Nitrogen Div., Allied Chemical & Dye Corp.	24
Bemis Bro. Bag Co.	Northern Chemical Industries	
Blue, John, Co.	Olin Mathieson Chemical Corp., Insecticides Division	
Bradley & Baker	Pacific Coast Borax Co.	
Burkhardt-Larsen Co.	Pacific Plastics Co.	
Burrows Equipment Co.	Pennsylvania Salt Mfg. Co. of Washington	
Butler Manufacturing Co.	Pfizer, Chas., & Co., Inc.	
	Phelps-Dodge Refining Corp.	
	Phillips Chemical Co.	
	Pittsburgh Coke & Chemical Co., Agricultural Chemicals Division	
	Potash Company of America	
	Poulsen Company	
	Powell, John, & Co., Inc.	17
	Private Brands, Inc.	
	Rapids Machinery Co.	
	Residex Corp.	
	Riverdale Chemical Co.	
	Savage, K. E., Co.	
	Schrock Fertilizer Service	
	Shell Chemical Corp.	
	Smith-Rowland Co., Inc.	
	Sohio Chemical Co.	
	Specifics, Inc.	
	Spencer Chemical Co.	
	Stauffer Chemical Co.	
	Stoker, H. S., Co.	
	Tennessee Corp.	
	Thompson-Hayward Chemical Co.	
	Umhaugh Agricultural Chemical Co.	
	Union Bag and Paper Corp.	
	United Petroleum Gas Co.	
	U. S. Phosphoric Products Division, Tennessee Corp.	3
	U. S. Potash Co.	
	U. S. Rubber Co., Naugatuck Chem. Div.	
	U. S. Steel Corp.	
	Velsicol Corporation	
	Virginia-Carolina Chemical Corp.	
	Vulcan Containers, Inc.	
	Vulcan Steel Container Co.	
Calcium Carbonate Co.		
California Spray-Chemical Corp.		
Chase Bag Co.		
Chipman Chemical Co.		
Clover Chemical Co.		
Commercial Solvents Corp.		
Croplife		16, 19
Deere & Co., Grand River Chem. Div.		
Diamond Alkali Co.		
Doane Agricultural Service		
Donco, Inc.		
Douglas Chemical Co.		
E. I. Dupont de Nemours & Co., Inc., Export Chemical Corp. of Colorado		
Fairfield Chemical Division, Food Machinery and Chemical Corp.		
Fischbein, Dave, Co.		
Flint Steel Corporation		
Florida Company		
Frontier Chemical Co.		
Gandrud, E. S., Co.		
Geigy Agricultural Chemical Co.		
General Chemical Division, Allied Chemical & Dye Corp.		
Gotcher Engineering & Mfg. Co.		
Grace Chemical Co.		
Grand River Chemical Div., Deere & Co.		
Hahn, Inc.		5
Hammond Bag & Paper Co.		
Henderson Mfg. Co.		
Hercules Powder Co.		
Highway Equipment Co.		
Hypro Engineering, Inc.		
International Minerals & Chemical Corp.		7
International Paper Co., Bagpak Div.		
K. B. H. Corporation, The		
Ketona Chemical Corp.		
Kraft Bag Corp.		
Krause Plow Corp.		

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